MOP0111003T2

# Technical Information

Microwave Oven

## NN-T551CB BPQ / NN-T551WB BPQ / NN-T571SB BPQ / NN-T591WB BPQ

**Models manufactured between June 2001 and September 2001 were supplied with the roller ring E290D5D20BP. The roller beads fitted to this roller ring are too small. The glass tray sits too low in the oven and rubs against the inside of the enamelled door E.**

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Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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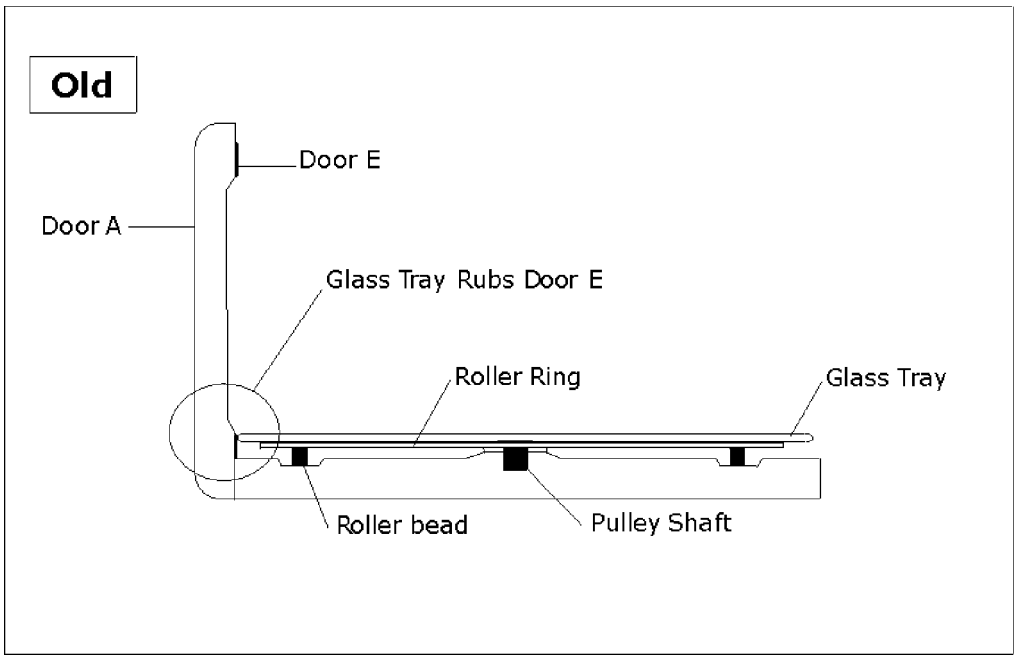
# 1. Symptom



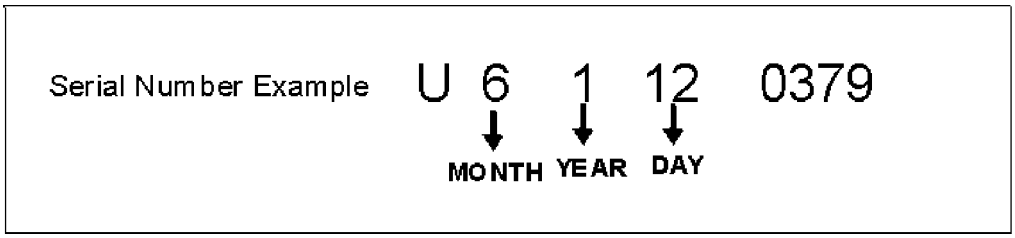

**The glass tray rubs against the inside edge of the enamelled door E.**

# 2. Models affected

**NN-T551CB NN-T551WB NN-T571SB NN-T591WB**

# 3. Serial numbers affected

## 3.1. How to read the serial number




## 3.2. Affected serial numbers

| | | | | |
|---|---|---|---|---|
| June 2001 | U | 6 | ** | **** |
| July 2001 | U | 7 | ** | **** |
| August 2001 | U | 8 | ** | **** |
| September 2001 | U | 9 | ** | **** |

# 4. Repair codes

**Use the following IRIS repair code.**
**IRIS CODE : 1641**
**Section code : TOA**
**Defect Code : A**
**Repair Code : A**

# 5. Repair kit part number

**The following repair kit consists of:**

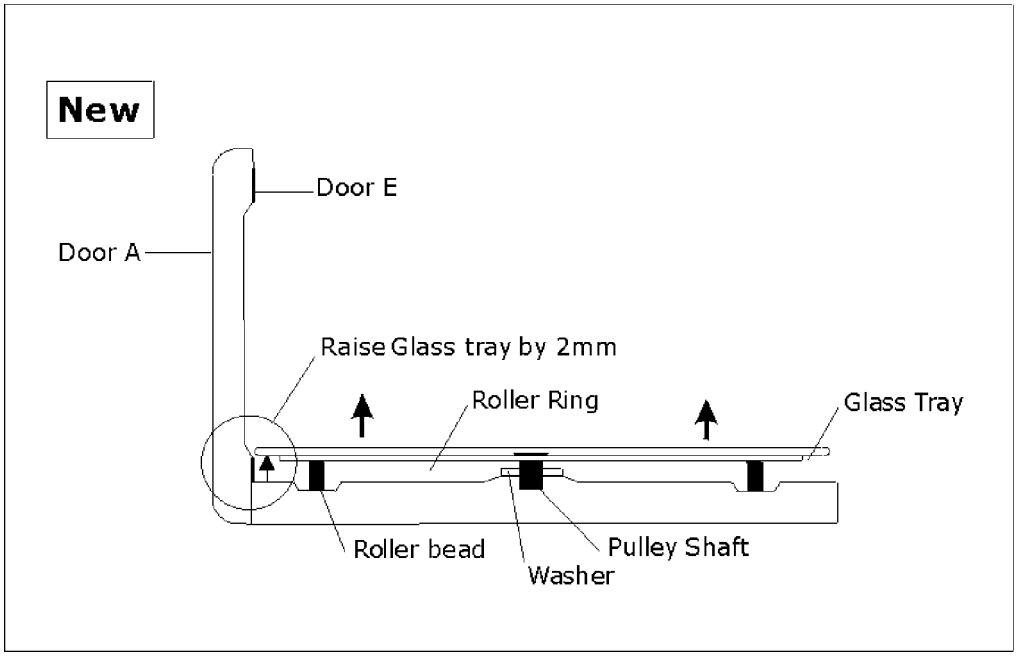
## 1. New Pulley Shaft

## 2. New Roller ring

## 3. Repair instruction

| Part Number | Description | Remarks |
|---|---|---|
| E290X5D20BP | Roller ring + shaft | |

# 6. Repair Explanation




**By the fitting the new roller ring and pulley shaft, the glass tray is raised by 2mm. At this height it clears the inside edge of the enamelled door E.**

# 7. Repair Procedure

## 7.1. Fit new pulley shaft

1. **Remove the old pulley shaft by gripping firmly and pulling upwards, away from the motor shaft.**
2. **Place the old pulley shaft washer onto the new pulley shaft.**
3. **Fit the new pulley shaft by locating it onto the turntable motor shaft and pushing down firmly.**

## 7.2. Fit the roller ring

1. **Place the new roller ring in the oven.**

MOP01060022C2

# Service Manual

## Microwave Oven

INVERTER SYSTEM INSIDE

## NN-T591WB / NN-T571SB / NN-T551WB / NN-T551CB / 27L

## United Kingdom

## SPECIFICATIONS

| | |
|---|---|
| Power source : | 240VAC Single Phase, 50Hz |
| Power requirements: | Microwave : 1300W |
| Output: (IEC705-88) | Microwave : 900W |
| Microwave Frequency | 2450Mhz |
| Timer: | 99 min 99 second |
| Oven cavity size | 27L |
| Outside dimensions: | 510 mm (W) X 380mm (D) x 304mm (H) |
| Inside dimensions | 359mm (W) x 352mm (D) x 217mm (H) |
| Weight | 11.5 Kg |
| Inverter power Supply | |
| Output Power Supply | IEC705-88 Test procedure |

Specifications subject to change without notice

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**IMPORTANT SAFETY NOTICE**

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

# 1. Inverter Warning

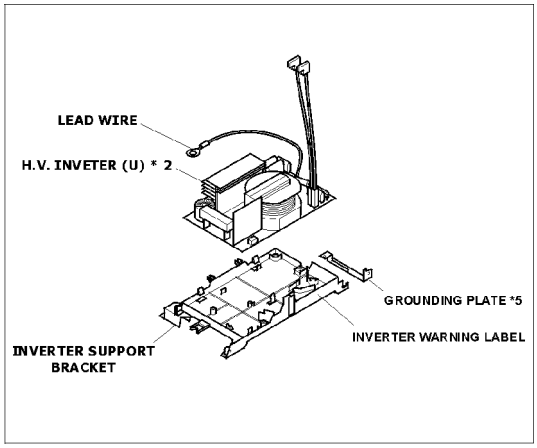
**The inverter board looks like a normal printed circuit board. However, this printed circuit board supplies the magnetron tube with very high voltage and current.**
**The inverter PCB:**

1. **Produces very high voltage and current.**
2. **Has an Aluminium heat sink which becomes very hot.**
3. **Has capacitors in the circuitry that hold a high voltage charge even when the oven is not operating.**

**Do not**

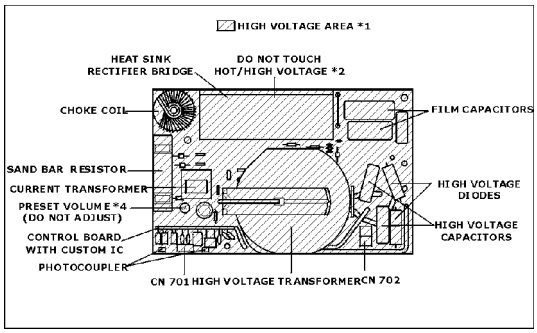
1. **Do not touch the high voltage circuitry. When replacing the board take extreme care to avoid possible electric shock.**
2. **Do not touch the aluminium heat sink as it is part of the high voltage circuit and becomes very hot.**
3. **Do not attempt to repair the inverter PCB as this can be very dangerous. Replace the high voltage, inverter circuit as a complete unit.**
4. **Do not adjust or tamper with the pre-set volume on the inverter board. It is very dangerous to adjust this pre-set without proper test equipment.**
5. **Do not operate the microwave oven when the inverter grounding plate and fixing screw is loose. It is very dangerous to operate the inverter circuit board with out a proper ground connection.**

**Figure 1**




**Inverter Power Supply Diagram**

**Figure 2**

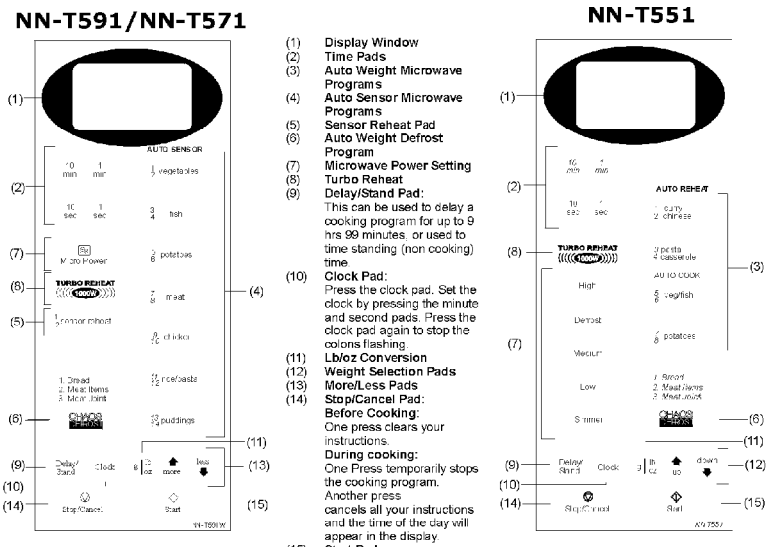



**Inverter Layout**

# 2. FEATURE CHART

| Function | NN-T551WB NN-T551CB | NN-T591WBNN-T571SB |
|---|---|---|
| Microwave | 4 | 5 |
| Sensor reheat | | 2 |
| Sensor Cook | | 14 |
| Turbo reheat | 1 | 1 |
| Weight reheat | 4 | - |
| Weight cook | 4 | - |
| Weight combination | | - |
| Weight defrost | 3 | 3 |
| Delay/Stand | Yes | Yes |
| More / Less | - | Yes |
| Kg - lb/oz | Yes | Yes |
| Stage cooking | 3 | 3 |
| Clock | 12H | 12H |
| Word prompt | English | English |

# 3. Control Panels


NN-T591/NN-T571
NN-T551
AUTO SENSOR
AUTO REHEAT
TURBO REHEAT
Micro Power
Clock
Start
Stop/Cancel
Delay/Start
(1) Display Window
(2) Time Pads
(3) Auto Weight Microwave Programs
(4) Auto Sensor Microwave Programs
(5) Sensor Reheat Pad
(6) Auto Weight Defrost Program
(7) Microwave Power Setting
(8) Turbo Reheat
(9) Delay/Stand Pad: This can be used to delay a cooking program for up to 9 hrs 99 minutes, or used to time standing (non cooking) time.
(10) Clock Pad: Press the clock pad. Set the clock by pressing the minute and second pads. Press the clock pad again to stop the colons flashing.
(11) Lb/oz Conversion
(12) Weight Selection Pads
(13) More/Less Pads
(14) Stop/Cancel Pad: Before Cooking: One press clears your instructions. During cooking: One Press temporarily stops the cooking program. Another press cancels all your instructions and the time of the day will appear in the display.
(15) Start Pad: Press to start operating the oven. If during cooking the door is opened or the stop or cancel pad is pressed once, the start pad has to be pressed again to continue cooking.

# 4. Operation And Digital Programmer Test Procedure

## 4.1. Setting The Clock

**1. Plug the power supply cord into the wall outlet**

*WELCOME TO PANASONIC REFER*
*TO OPERATING INSTRUCTIONS*

**2. Press the clock pad**

SET TIME

**3. Enter the time of the day**

11:25
PRESS CLOCK

**4. Press the clock pad**

11 : 25

## 4.2. Microwave Cooking

**1. Place a water load in the oven**

**2. Press Micro power once to set high power**

HIGH
_ _ SET TIME

**3. Set time at 10 sec. by pressing 10 sec. pad once**

HIGH
10
SEC
_ _ SET TIME

**4. Press Micro power pad 3 times to set medium power**

MEDIUM
_ _ SET TIME

**5. Set pad for 1 minute by pressing 1 min. pad once**

MEDIUM
1 00
min sec
_ _ PRESS START

**6. Press the start pad**

10
sec

**7. When the first stage cooking has elapsed oven automatically switches to second stage**

1 00
min sec

**8. When second stage cooking has elapsed oven bleeps 5 times and shuts off**

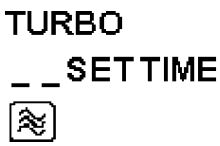
OPEN DOOR

## 4.3. Turbo Reheat

**1. Place water load in the oven**



**2. Press the Turbo reheat button once**



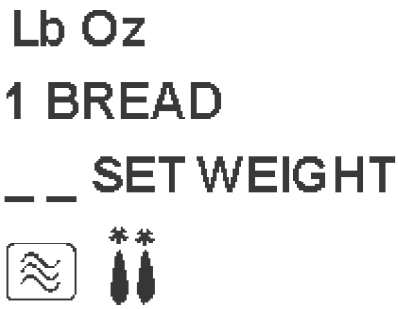

**3. Set time to 1 minute by pressing1 min pad once**

**4. Press the start pad**

## 4.4. Auto Weight Defrost

**1. Select the desired program**

**2. Press g or lb. and oz.**




**3. Enter the weight by pressing the Up & Down or more less pads.**

1Lb 10 Oz

PRESS START

**4. Press Start**

### 4.5. Delay Stand

**1. Set power level and time**

-

**2. Press Stand**

STAND

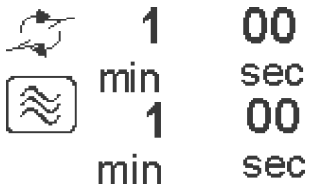
SET TIME

**3. Set standing time**

H1 00

PRESS START

**4. Press Start**




### 4.6. Delay Start

**1. Press delay**

DELAY START

SET TIME

**2. Set delay time**

1H 00

CHOOSE COOKING MODE

**3. Set power level and time**

-

**4. Press start pad**

1H 00

## 4.7. Auto Weight Cook Programs NN-T551

**1. Select the desired auto weight cook program**

FRESH VEGETABLES

**2. Press to select grams or pounds and ounces**

LB OZ
FRESH VEGETABLES
SET WEIGHT

**3. Enter the weight by pressing the up and down pads**

1 LB 0
PRESS START

**4. Press Start**

8 18
min sec

## 4.8. Auto Sensor Cooking NN-T591 NN-T571

**1. Select the desired sensor cook program**

FRESH VEGETABLES
PRESS START

**2. Press start**

FRESH VEGETABLES

## 4.9. Demonstration Mode

**1. Set demonstration mode by pressing the clock pad three times**

DEMO MODE
PRESS ANY KEY

**2. Cancel demonstration mode by pressing the clock pad three times**

11 : 35

## 4.10. Child Lock

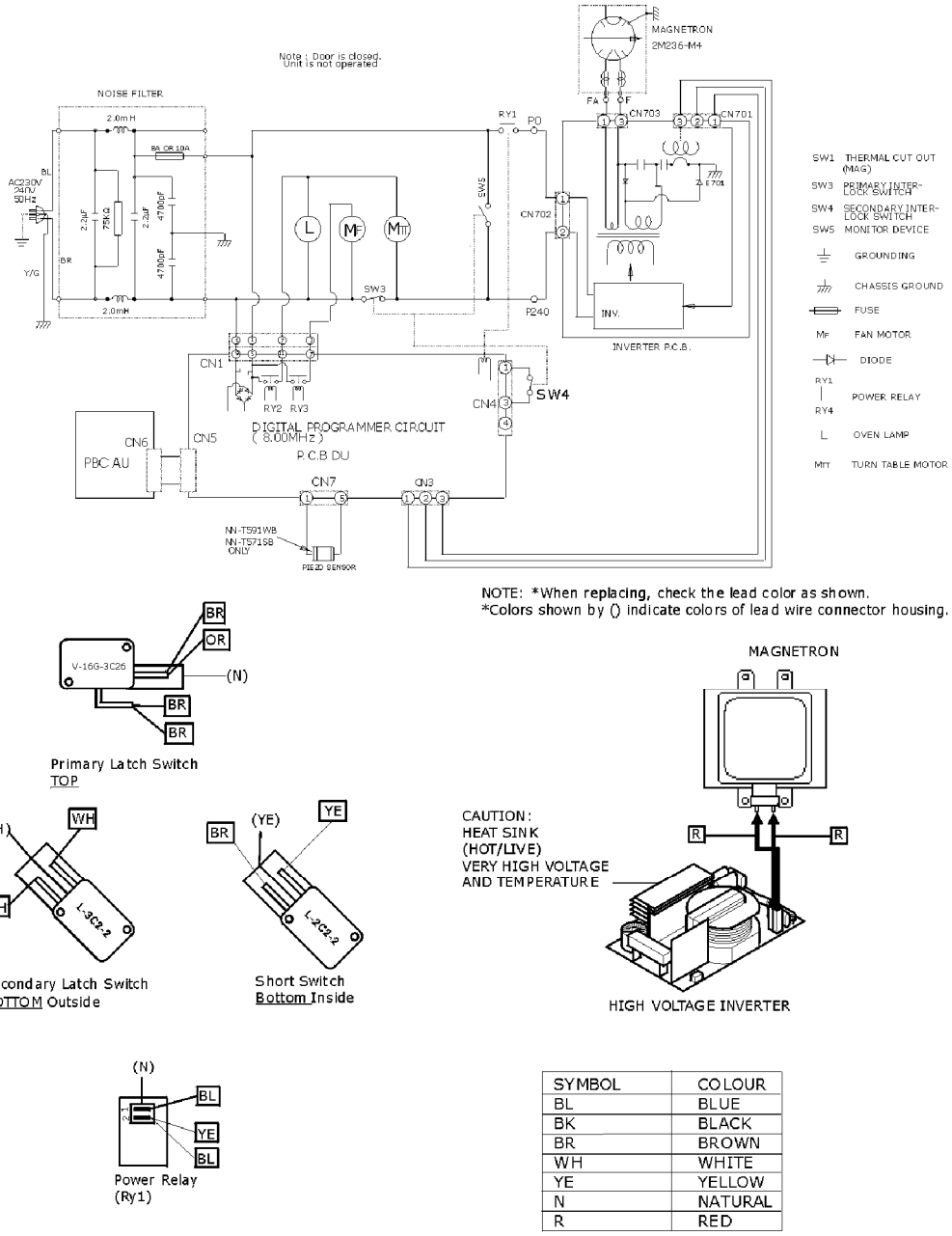
**1. Set the child lock by pressing the start pad three times**

LOCK

**2. Cancel the child lock by pressing the start pad three times**

11 : 35

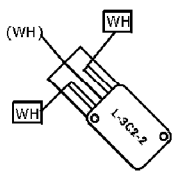
# 5. Schematic And Wiring Diagram




NOTE: *When replacing, check the lead color as shown.
*Colors shown by () indicate colors of lead wire connector housing.




Primary Latch Switch
TOP




Secondary Latch Switch
BOTTOM Outside




Short Switch
Bottom Inside




HIGH VOLTAGE INVERTER




Power Relay
(Ry1)

| SYMBOL | COLOUR |
|---|---|
| BL | BLUE |
| BK | BLACK |
| BR | BROWN |
| WH | WHITE |
| YE | YELLOW |
| N | NATURAL |
| R | RED |

# 6. Description Of The Operating Sequence

## 6.1. Variable power cooking control

**The output power is controlled by the inverter power supply, which is controlled by signals from the digital programmer circuit (DPC). The digital programmer cicruit operates relay RY1 to supply power to the inverter circuit. The outpower is controlled by the inverter control signal from the digital programmer circuit.**

**Variable power cooking**

| Setting | Output | On Time | Off Time |
|---|---|---|---|
| Turbo | 1000W | 22 | 0 |
| High | 900W | 22 | 0 |
| Defrost | 440W | 16 | 6 |
| Medium | 600W | 22 | 0 |
| Low | 440W | 22 | 0 |
| Simmer | 440W | 15 | 7 |
| Warm | 440W | 8 | 14 |

**NOTE 1. The ON/OFF time ratio does not corespond with the percentage of microwave power since approximately 2 seconds are required to heat the magnetron filament.**
**NOTE 2. If the microwave cooking time is longer than 3 minutes, the cooling fan will operate for 1 minute to cool the oven and its electronic components.**

## 6.2. Auto weight defrost, Auto weight Cook NN-T551

**When an auto control feature is selected and the start pad pressed:**

1. **The digital programmer circuit determines the power level and the cooking time and indicates the operating state in the display. The table shows the corresponding cooking times for each category and its respective weight.**
2. **When the cooking time in the display window has elapsed, the oven turns off automatically via the control signal from the digital programmer circuit.**
   **Note: After auto cooking if the oven temperature is over the predetermined temperature the fan motor rotates to cool the oven and its components.**

**Auto Weight Defrost**

| Category | 1st Touch Weight | Cooking Time |
|---|---|---|
| Bread | 100g | 0 Min 50 Sec |
| Meat Items | 200g | 3 Min 0 Sec |
| Meat Joints | 400g | 6 Min 20 Sec |

**Auto Weight Cook**

| Category | 1st Touch Weight | Cooking Time |
|---|---|---|
| 1.curry | 350g | 4 Min 22 Sec |
| 2.chinese style | 250g | 2 Min 55 Sec |
| 3.pasta | 300g | 3 Min 30 Sec |
| 4.casserole | 350g | 4 Min 5 Sec |
| 5.fresh vegetables | 100g | 2 Min 20 Sec |
| 6.fresh fish | 100g | 1 Min 10 Sec |
| 7.jacket potatoes | 200g | 4 Min 30 Sec |
| 8.boiled potatoes | 200g | 4 Min 00 Sec |

## 6.3. One touch Auto sensor cooking NN-T591 NN-T571

**Auto sensor cook is a revolutionary way to cook by microwave without setting a power level or selecting a time. All that is necessary is to select an auto sensor program before starting to cook. /**

**Understanding Auto sensor cooking. / As food cooks, a certain amount of steam is produced. If the food is covered, this steam builds up and eventually escapes from the container. In auto sensor cooking, a carefully designed instrument, called the humidity sensor element, senses the escape of steam. then, based upon the auto sensor program selected, the unit will automatically determine the correct power level and the proper length of time it will take to cook the food.**

**NOTE: Auto sensor cooking is successful with the foods and recipes found in the auto sensor cooking guide. Because of the vast differences in food composition, items not mentioned in the cooking guide should be prepared in the microwave oven using the power select and time features. Please consult variable power microwave cook book for procedures.**

**/ Explanation of the auto sensor cooking process**

1. **The shaded columns in figure 1 indicate when the humidity sensor heater is on.**
2. **During this 30 second period there is no microwave activity. When calculating the T2 time by using the formula below, make sure this 30 seconds is subtracted from the T0 time.**
3. **T1 time = T0 time - 30 seconds.**
4. **T2 time. When the steam escapes from the cooking container placed in the oven, the humidity sensor detects it and the microprocessor calculates the balance of cooking time. This T2 time is then shown in the display and begins counting down.**

**Balance of cooking (T2 time)**

**The balance of cooking time which is called T2 time, can be calculated by the following formula. / T2 time (in sec.) = T1 time x K factor**

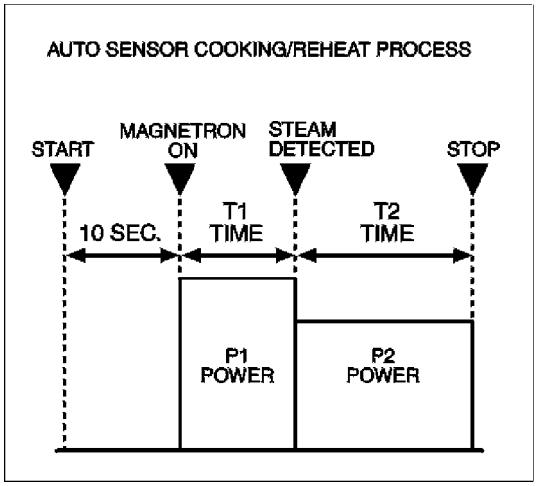
**NOTE: Remember, the T1 time starts after the start pad is tapped. The coefficient K is programmed into the microprocessor memory and they are listed in the following tables along with the P1 and P2 powe r. /**

**NOTE: When “More” or “Less” pad is selected, the K factor varies resulting in T2 time to be increased or decreased.**

**Calculating the T2 time**
**Example 1: If the T1 time is measured to be 2 minutes and 40 seconds, and the auto sensor program is selected to sensor reheat. Fresh Fish (Program 3)**
**T2 = T1 x K**
**= 2 min 40 sec. X. 0.1**
**= 16 sec.**

| Catergory | P1 POWER | P2 POWER | K FACTOR STANDARD |
|---|---|---|---|
| fresh vegetables | HIGH | HIGH | 0.5 |
| frozen vegetables | HIGH | HIGH | 0.1 |

**Figure 1**




**Auto sensor cooking**

# 7. Cautions to Be Observed When Troubleshooting

**Unlike many other appliances, the microwave oven is a high voltage, high current device. Though it is free from danger in ordinary use, extreme care should be taken during repair.**

**Caution**

**Servicemen should remove their watches whenever working close to or replacing the magnetron.**

## 7.1. Check the grounding

**Do not operate on a two wire extension cord. The microwave oven is designed to be used when grounded. It is imperative, therefore, to ensure the appliance is properly grounded before beginning repair work.**

## 7.2. Inverter Warnings

**DANGER, HIGH VOLTAGE AND HIGH TEMPERATURE (HOT/LINE) OF THE INVERTER POWER SUPPLY (U)**

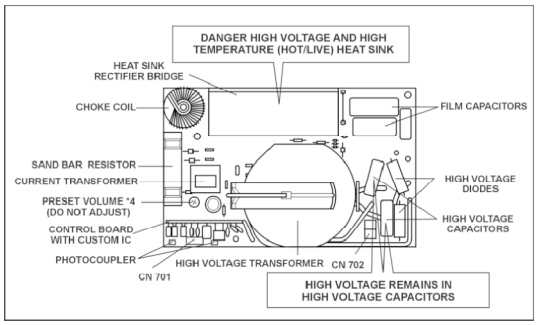
**This high voltage inverter power supply handles very high voltage and current for the magnetron tube. Though it is free from danger in**

**ordinary use, extreme care should be taken during repair. As you can see, it looks like a TV flyback transformer, however, the current is extremely large and is therefore, dangerous due to this high current and high voltage.**

**The aluminium heat sink is also energized with high voltage (HOT), so do not touch when the AC input terminal is connected. The power devices (Collector) is directly connected to the aluminium heat sink.**

**The aluminium heat sink may be (HOT) due to heat energy, therefore, extreme care should be taken during servicing.**

**Figure 1**

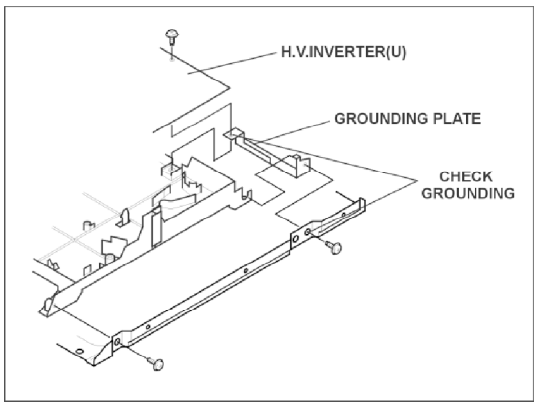



**HV Inverter warning**

**WARNING FOR INVERTER POWER SUPPLY (U) GROUNDING**

**Check the high voltage inverter power supply circuit grounding. The high voltage inverter power supply circuit board must have a proper chassis ground, the inverter grounding bracket must be connected to the chassis. If the inverter board is not grounded it will expose very high voltages and cause extreme DANGER! Be sure that the inverter circuit is properly grounded via the inverter earth bracket.**

**Figure 2**

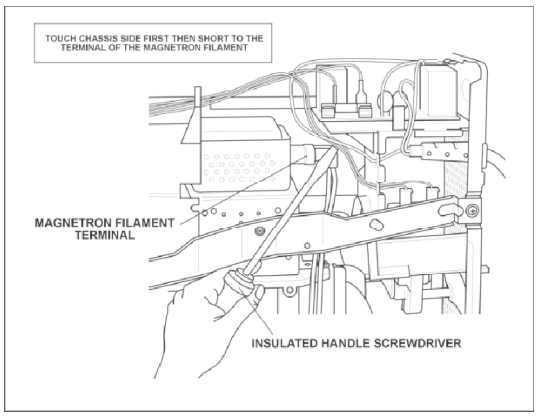



**Grounding of the inverter circuit board**

**WARNING! DISCHARGE THE HIGH VOLATGE CAPACITORS**

**For about 30 seconds after the oven is turned off, an electric charge remains in the high voltage capacitors in the inverter power supply circuit board.**
**When replacing or checking parts, remove the power plug from the outlet and short the inverter output terminal of the magnetron filament terminals to the chassis ground with an insulated handle screwdriver to discharge. Please be sure to touch the chassis ground side first and then short to the output terminals.**

**Figure 3**


TOUCH CHASSIS SIDE FIRST THEN SHORT TO THE TERMINAL OF THE MAGNETRON FILAMENT
MAGNETRON FILAMENT TERMINAL
INSULATED HANDLE SCREWDRIVER

**Discharging the high voltage capacitors**

**WARNING**

**There is high voltage present with high current capabilities in the circuits of the primary and secondary windings, choke coil and heat sink of the inverter. It is extremely dangerous to work on or near these circuits with the oven energized. DO NOT measure the voltage in the high voltage circuit including the filament voltage of the magnetron.**

**WARNING**

**Never touch any circuit wiring with your hand nor with an insulated tool during operation.**

## 7.3. Part Replacement.

**When any part or component is to be replaced, always ensure that the power cord is removed from the wall outlet.**

## 7.4. When the 10A fuse is blown due to the operation of the short switch:

**WARNING**

**When the 10A 250V fuse is blown due to the operation of the short switch, the primary latch switch and short switch must be replaced.**

**It is also important to change the power relay 1 (RY1) when the continuity test shows shorted contacts.**

1. **This is mandatory. Refer to “adjustments and measurements” for the location of these switches.**
2. **When replacing the fuse, confirm that it has the appropriate rating for these models.**
3. **When replacing faulty switches, be sure the mounting tabs are not bent, broken or deficient in their ability to hold the switches.**

## 7.5. Avoid inserting nails, wire etc. through any holes in the unit during operation.

**Never insert a wire, nail or any other metal object through the lamp holes on the cavity or any holes or gaps, because such objects may work as an antenna and cause microwave leakage.**

## 7.6. Confirm after repair

1. **After repair or replacement of parts, make sure that the screws of the oven, etc. are neither loose nor missing. Microwaves might leak if screws are not properly tightened.**
2. **Make sure that all electrical connections are tight before inserting the plug into the wall outlet.**
3. **Check for microwave energy leakage. (Refer to procedure for measuring microwave energy leakage).**

**CAUTION MICROWAVE RADIATION**

**DO NOT BECOME EXPOSED TO RADIATION FROM THE MICROWAVE GENERATOR OR OTHER PARTS CONDUCTING MICROWAVE ENERGY**

**IMPORTANT NOTICE**

**The following components have potentials above 250V while is appliance is operated.**

- **Magnetron**
- **High voltage transformer (Located on inverter (U))**
- **High voltage diodes (Located on inverter (U))**
- **High voltage capacitors (Located on inverter (U))**

**Pay special attention in these areas.**

**When the appliance is operated with the door hinges or magnetron fixed incorrectly, the microwave leakage can reach more than 5mW/**

**$cm^3$. After repair or exchange, it is very important to check if the magnetron and the door hinges are correctly fixed.**

### 7.7. Sharp Edges

**Caution**

**Please use caution when unpacking, installing or moving the unit, as some exposed edges may be sharp to touch and cause injury if not handled with care.**

# 8. Parts Replacement Procedure

### 8.1. Magnetron

1. **Discharge the high voltage capacitors on the inverter circuit.**
2. **Remove the screw holding the air guide.**
3. **Remove the two screws holding the tie bar.**
4. **Remove the oven lamp and lead wire harness cables form the air guide A.**
5. **Remove the air guide A.**
6. **Disconnect the two high voltage leads from the magnetron.**
7. **Remove the four screws holding the magnetron.**

**NOTE: After replacing the magnetron, tighten the mounting screws making sure that there is no gap between the waveguide and the magnetron to prevent microwave leakage.**

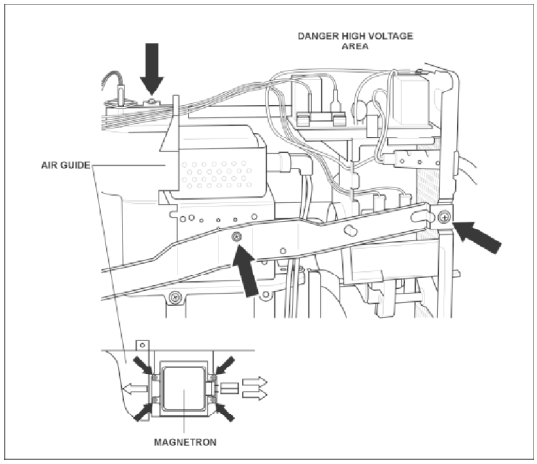
**Caution**

**When replacing the magnetron, ensure that the antenna gasket is in place.**

**Note**

**The magnetron used for this model is unique for the inverter power supply system. Make sure to use the one as listed in the parts list.**

**Figure 1**




**Removal of the magnetron**

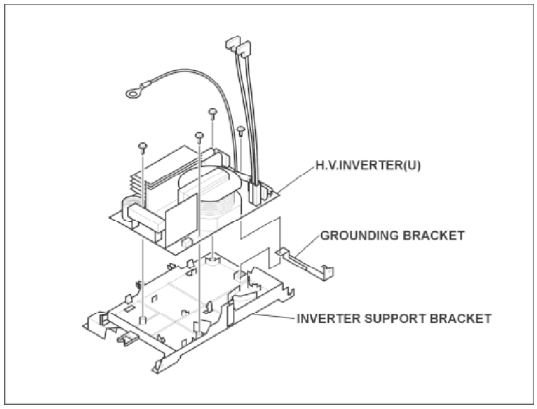
## 8.2. Inverter power supply (U)

1. **Discharge the high voltage capacitors.**
2. **Remove two screws holding the tie bar.**
3. **Unplug the H.V. Lead wires from the magnetron.**
4. **Remove the one screw holding the earth wire to the magnetron.**
5. **Remove the connector CN701 and CN702 from the inverter PCB.**
6. **Remove the two screws holding the inverter base to the chassis (See figure 2).**
7. **Carefully remove the inverter PCB and support base from the oven.**
8. **Remove the air guide E by un-clipping the catch hooks.**
9. **Remove the four screws holding the PCB to the inverter support base.**

### Caution when replacing the inverter power supply (U)

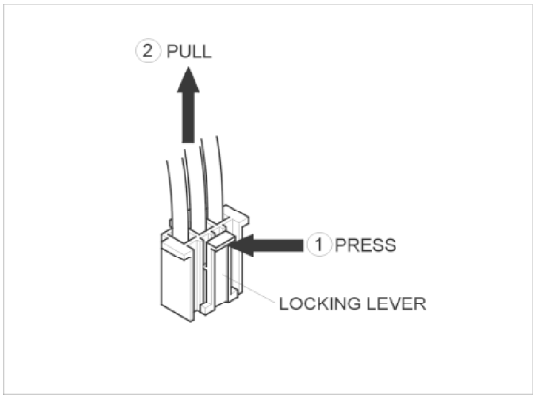
1. **Make sure that grounding plate is in place.**
2. **Securely tighten the grounding screw through the side of the chassis (Base).**
3. **Securely connect the 3 lead wire connectors.**
4. **Make sure that the heat sink has enough space (gap) from the oven. Take care not to touch any lead wire to the aluminium heat sink because it is hot.**

**Figure 2**




**Removal of the inverter PCB.**

**Figure 3**




**Disconnecting the PCB lock connector.**

## 8.3. Digital Programmer Circuit (DPC) and membrane key board.

**NOTE: Ground any static electric built up on your body before handling the DPC.**

1. **Disconnect all connectors from the DPC.**
2. **Remove the two screws holding the escutcheon base and slide the escutcheon base upward slightly. Removal is easier with the door open.**
3. **Release the ribbon cable.**
4. **Remove the six screws holding the DPC DU assembly.**
5. **Remove the door lever.**
6. **Remove the seven screws holding the DPC AU assembly.**

**To remove escutcheon pad.**

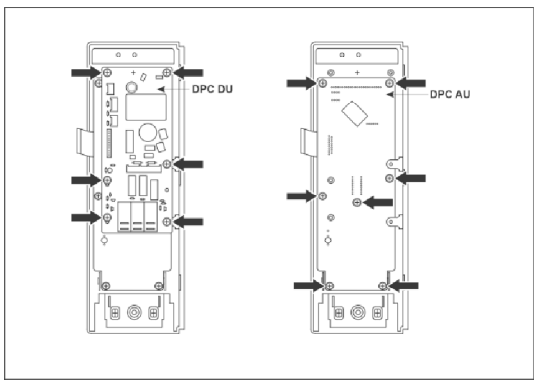
1. **Remove the escutcheon bracket from the escutcheon base by freeing the 4 catch hooks on the escutcheon base.**
2. **Peel away the display window from the inside of the base.**
3. **Remove the membrane assembly by pushing from the inside of**

**the base and then peeling away from the outside surface.**

**NOTE:**

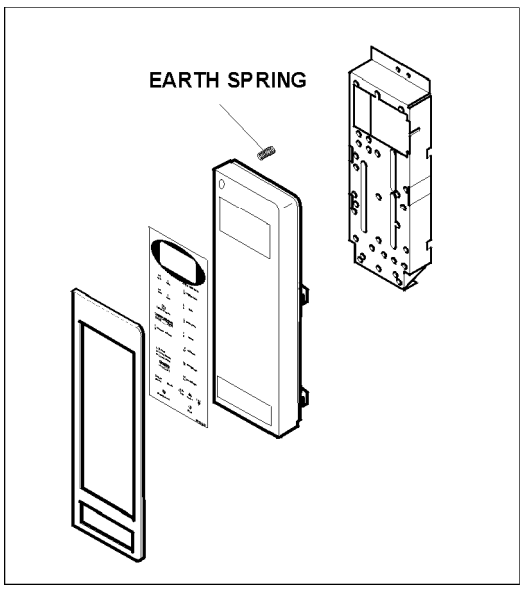
1. **The escutcheon key board is attached to the escutcheon base with double faced adhesive tape. Therefore, applying hot air such as using a hair dryer is recommended for smoother removal.**
2. **When installing a new escutcheon key board, make sure that the surface of the escutcheon base is cleared sufficiently so that problems such as, shorted contacts and uneven surfaces can be avoided.**
3. **When replacing the stainless escutcheon asemmbly, (NN-V671SB), ensure that the stainless facia is earthed to the escutcheon back plate via the earth spring.**

**Figure 4**




**Removal of DPC AU and DPC DU**

**Figure 6**




**Grounding of the stainless facia**

## 8.4. Low voltage transformer and/or power relays (RY1)

**Note**

**Be sure to ground your body to discharge any static before handling the DPC.**

1. **Using a solder wick or a de-soldering tool and a 30W soldering iron, carefully remove all solder from the terminal pins of the low voltage transformer and/or power relays.**
2. **With all of the terminal pins cleaned and separated from the DPC contacts, remove the defective transformer/power relays and install the new components making sure that the terminal pins are inserted completely. Carefully re solder all terminal contacts carefully.**

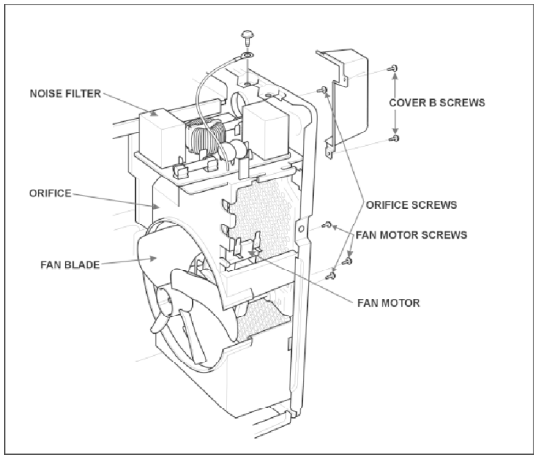
**Note**

**Do not use a soldering iron or de soldering tool of more than 30 watts on DPC contacts**

## 8.5. Fan Motor

1. **Remove two screws and remove the tie bar.**
2. **Disconnect the two lead wires from the fan motor terminals.**
3. **Disconnect all lead wires from the noise filter.**
4. **Remove the noise filter.**
5. **Remove the air guide by removing the two screws.**
6. **Remove the two screws holding the orifice assembly.**
7. **Remove the two screws holding the fan motor assembly.**
8. **Detach the orifice assembly and the fan motor assembly from the oven assembly.**
9. **Remove the fan blade from the fan motor by pulling outward.**

**Figure 6**




**Removing the fan motor.**

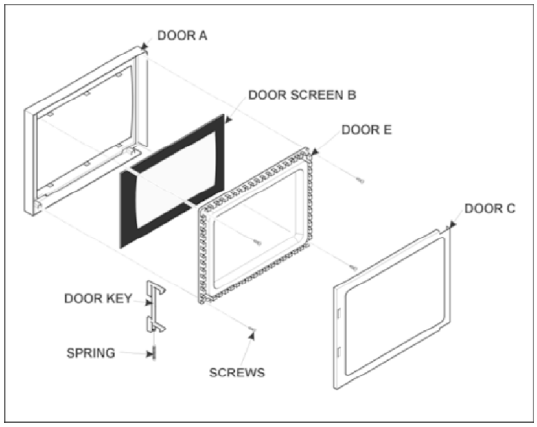
## 8.6. Door disassembly

1. **Remove door C from door E by carefully pulling outward starting from the upper right hand corner using a flat blade screwdriver.**
2. **Remove four screws holding the door E to the door A assembly.**
3. **Remove the door screen B by carefully un-clipping the screen from the door A catch hooks. Care must be taken not to damage these hooks during disassembly.**
4. **Remove the door key and spring from the door E.**

**After replacement of the defective component parts of the door, reassemble and follow the instructions below for proper installation and adjustment so as to prevent excessive microwave leakage.**

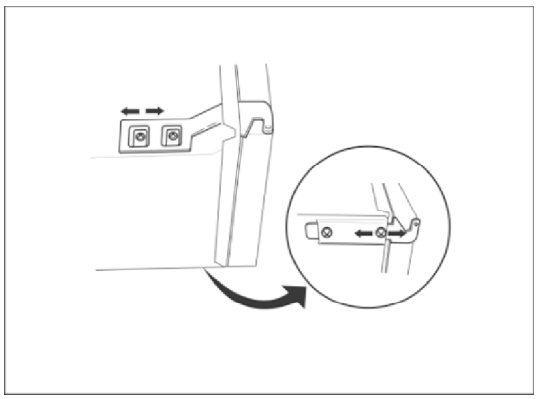
1. **When mounting the door to the oven, be sure to adjust the door parallel to the bottom line of the oven face plate by moving the upper hinge in the direction necessary for proper alignment.**
2. **Adjust so that the door has no play between the inner door surface and the oven front surface. If the door assembly is not mounted properly, microwave power may leak from the clearance between the door and oven.**
3. **Perform the microwave leakage test.**

**Figure 7**




**Disassembly of the door.**

**Figure 8**



**Adjusting the door hinge.**

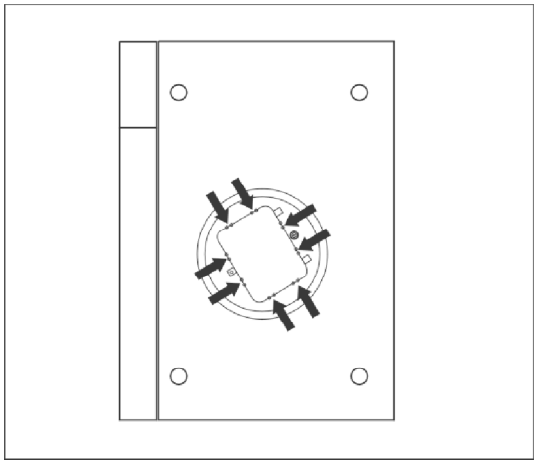
## 8.7. Turntable Motor

1. **Remove the motor cover by breaking off at the 8 spots indicated by the arrows.**
2. **Disconnect the two lead wires connected to the turntable motor.**
3. **Remove the turntable motor by removing the two screws.**

**Note: After breaking off the motor cover, make sure that cut-off portions are properly trimmed off or bent inside so that no sharp edges are exposed.**

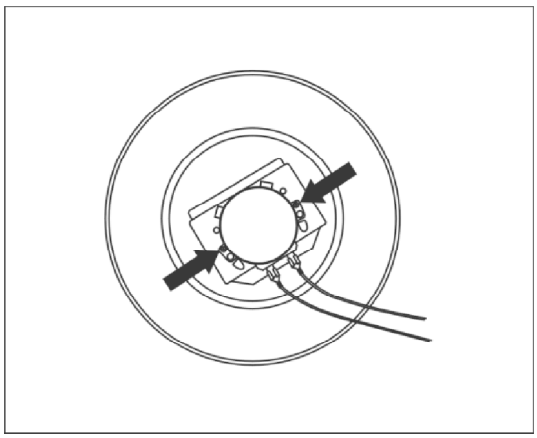
**Note: To secure the motor cover use a 4 x 6 screw.**

**Figure 9**



**Removing the turntable motor cover.**

**Figure 10**

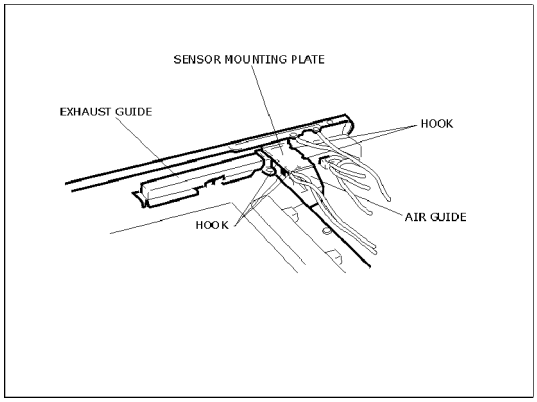


**Removing the two scews fixing the turntable motor.**

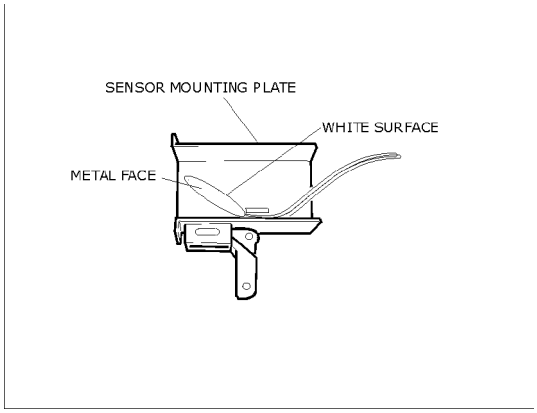
## 8.8. Steam Sensor NN-T591 NN-T571

1. **Remove 1 screw holding the steam sensor unit**
2. **Disconnect CN7 connector for the digital programmer circuit board.**
3. **Remove the exhaust guide from the steam sensor unit.**
4. **Remove the catch hooks on the sensor mounting plate and air guide.**
5. **Remove the steam sensor from the sensor mounting plate**

**NOTE: When installing the steam sensor, make sure that the direction of the steam sensor is as shown in the figure 11.**




**Removing the steam sensor**




**Fitting the new sensor**

# 9. Component Test Procedure

**Caution**

1. **High voltage is present at the high voltage terminal of the inverter unit, including the aluminium heat sink.**
2. **It is not necessary or advisable to attempt to measure this high voltage.**
3. **Before touching any oven components, or wiring, always unplug the oven from its power source and discharge the high voltage capacitors.**

## 9.1. Primary Latch Switch, Secondary Latch Switch and power relay B interlocks.

1. **Unplug the lead connectors to power relay B and verify the continuity of the power relay B 1-2 terminals.**
2. **Unplug the lead connectors to the primary latch switch and secondary latch switch.**

3. Test the continuity of the switches with the door open and closed with an ohm meter on the lowest scale.
   Normal continuity readings should be as followed.

| | Door Open | Door Closed |
|---|---|---|
| Primary Latch Switch | infinite Ω (Open) | 0 Ω (Close) |
| Secondary Latch switch | infinite Ω (Open) | 0 Ω (Close) |
| Power relay B | infinite Ω (Open) | infinite Ω (Close) |

## 9.2. Short Switch and Monitor Circuit

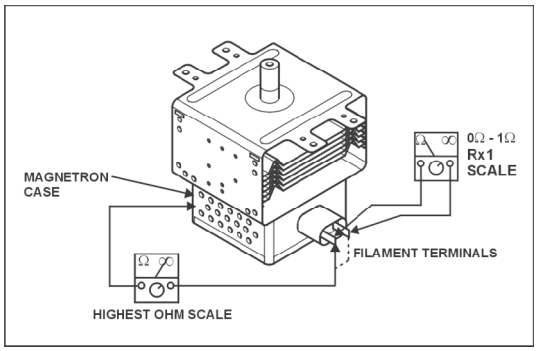
1. Unplug the lead wires from the HV inverter primary terminals.
2. Connect the test probes of the ohm meter to these leads.
3. Test the continuity of the short switch with the door open and the door closed using the lowest ohm scale.

| | Door Open | Door Closed |
|---|---|---|
| Monitor switch | 0 Ω | infinte Ω |

## 9.3. Magnetron

**Continuity checks can only indicate an open filament or a shorted magnetron. To diagnose an open filament or shorted magnetron.**

1. Isolate the magnetron from the circuit by disconnecting the HV leads.
2. A continuity check across the magnetron filament terminals should indicate one ohm or less.
3. A continuity check between each filament terminal and the magnetron case should read open.



## 9.4. Push Button Keyboard

**Check the continuity between the switch terminals, by tapping an appropriate pad on the keyboard. The keypad matrix is shown on P.28.**

## 9.5. Inverter Power Supply

**Caution**

**DO NOT try to repair this inverter power supply). Replace as a whole H.V. Inverter Unit.**

**Inverter Power Supply Diagram**

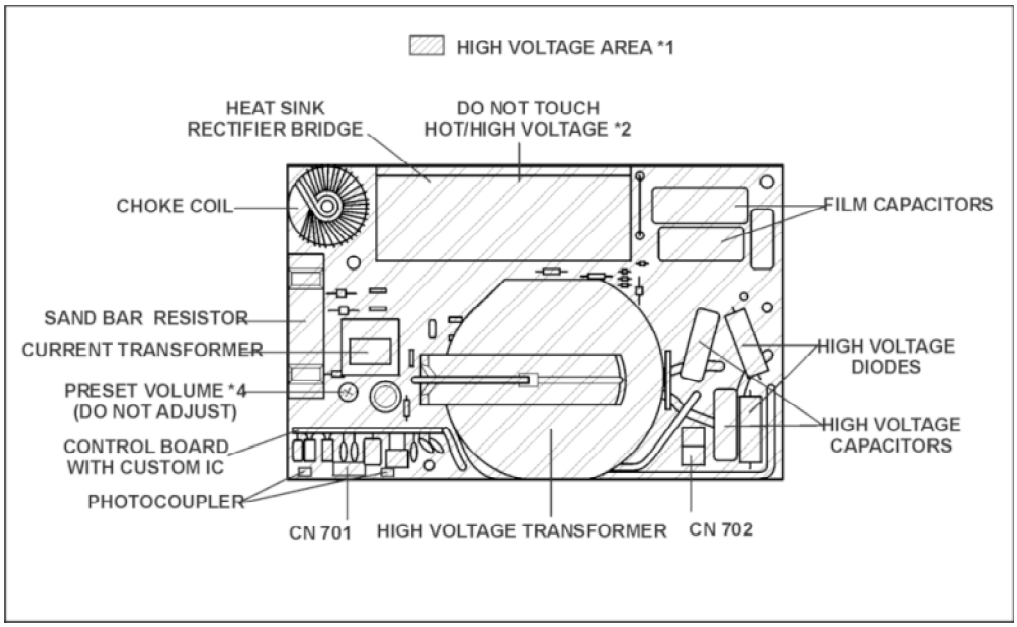



**Figure 3**

## 9.6. Inverter Power Supply Unit

**Warning**

**Do not attempt to make any measurements in the high voltage circuitry of the inverter or magnetron.**

**See troubleshooting of the inverter circuit and magnetron on P.19 to determine if the inverter power supply is still functioning.**

## 9.7. Steam Sensor and Digital Programmer circuit

**Caution**

**Do not touch any parts of the circuitry on the digital programmer circuit since static electric discharge may damage this control panel. Always ground yourself while working on this panel to discharge any static from your body.**

**In order to detemine if the steam sensor programe of the digital programmer circuit is in working order, do the following test.**

### 1. Place a water load (150cc) inn the oven

2. Set the Auto sensor program 3 fish.
3. Tap the Start pad
4. Steam Sensor detects steam about 1 minute and 30 seconds to four minutes after the start pad is pressed.
5. T1 cooking switches the cooking time T2.
6. The cooking time T2 appears in the display window. If the following times appear the steam sensor is functioning normally.

| T1 TIME | T2 TIME |
|---|---|
| 1 MIN 30 SEC - 4 MIN | 8 SEC - 23 SEC |

# 10. Measurements and Adjustments

**Warning**

- For continued protection against radiation hazard, replace only with identical parts.
- When the 10 amp fuse is blown due to the operation of the short switch, you must replace the primary latch switch and short switch. Then follow the installation procedures below.
- Interlock switch replacement - In replacing faulty switches, be sure mounting tabs are not bent, broken or otherwise deficient in their ability to hold the switches.
- Refer to the schematic and wiring diagram to ensure proper connection.

## 10.1. Installation of primary latch switch, secondary latch switch and short switch.

1. When mounting the primary latch switch, secondary latch switch and short switch to the door hook assembly. Follow the instructions in figure 1.
   NOTE: No specific adjustment during the insulation of each switch into the door hook is necessary.
2. When mounting the door hook assembly to the oven assembly, adjust the door hook assembly by moving it in the direction of the arrow in figure 1. Ensuring the door does not have any play in it. Check for play by pulling the door assembly. Make sure that the latch keys move smoothly after adjustment is completed.

**Completely tighten the screws holding the door hook assembly to the oven assembly.**

3. **Reconnect the short switch, primary switch and secondary latch switches and check the continuity of the monitor circuit and latch switches by following the component test procedures on page 17.**

## 10.2. Measurement of microwave output

**The output power of the magnetron can be determined by performing the IEC standard test. However, due to the complexity of the IEC test procedures, it is recommended to test the magnetron using the simple method outlined below.**

**Necessary equipment:**

**- 1 litre beaker.**

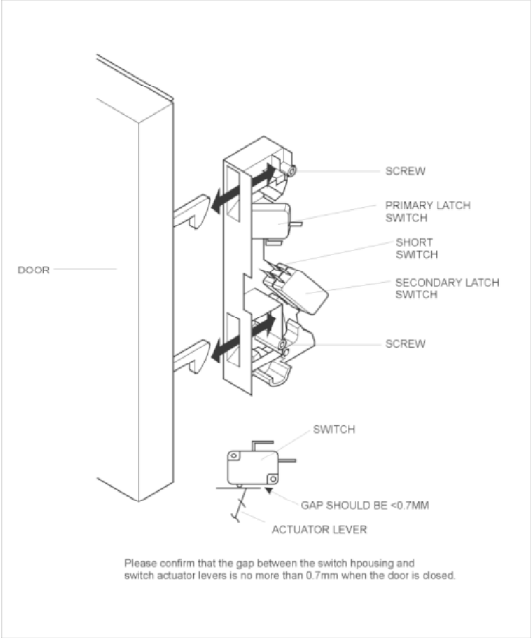
**- Glass thermometer.**

**- Wrist watch or stop watch.**

**NOTE: Check the line voltage under load. Low voltage will lower the magnetron output. Take the temperature readings and heating time as accurate as possible.**

1. **Fill the beaker with exactly one liter of tap water. Stir the water using the thermometer and record the waters temperature (Record as T1).**
2. **Place the beaker on the center of the glass cook plate.**
3. **Operate the Microwave for 1 Minute on FULL power.**
4. **Stir the water again and read the temperature of the water. (Record as T2).**
5. **The normal temperature rise at the high power position for each model is shown in the table. (Figure 2).**

**Figure 1**


SCREW
PRIMARY LATCH SWITCH
SHORT SWITCH
SECONDARY LATCH SWITCH
SCREW
DOOR
SWITCH
GAP SHOULD BE <0.7MM
ACTUATOR LEVER
Please confirm that the gap between the switch hpousing and switch actuator levers is no more than 0.7mm when the door is closed.

**Adjustment of latch switch assembly**

| RATED OUTPUT | TEMPERATURE RISE |
|---|---|
| 1000W | 8°C |

# 11. Troubleshooting guide

**Caution**

1. **Do not try to repair this H.V. Inverter power supply. Replace as a whole unit. When returning the inverter unit pack in the original inverter box.**
2. **Do not adjust the preset volume on the H.V. Inverter. It is very dangerous to repair or adjust without sufficient test equiptment, this circuit handles very high volatge and current.**
3. **Ensure a good ground connection before beginning any troubleshooting.**
4. **Be careful of the high voltage circuit and take necessary precautions when troubleshooting.**
5. **Discharge the high voltage capacitors on the inverter.**
6. **When checking the continuity of the components on the H.V. inverter circuit, disconnect one lead wire from these parts and then check the continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.**

**When disconnecting a plastic connector from a terminal, you must hold the plastic connector and not the lead wire, otherwise the lead wire may become open circuit.**

**7. Do not touch any parts of the circuitry on the digital programmer cicruit, since static electric discharge may damage this control panel.**
**Whilst working on this board ensure that that your body is connected to ground to discharge any static charge.**

**8. 240 VAC is present on the digital programmer circuit. (Terminals of the power relays and the primary circuit of the low voltage transformer). When troubleshooting, be cautious of possible electric shock.**

**Before troubleshooting, operate the microwave oven following the correct operating procedures in the instruction manual in order to find the exact cause of any trouble, since operator error may be mistaken for the ovens malfunction.**

**Figure 1**

| | SYMPTOMS | CAUSE | CORRECTIONS |
|---|---|---|---|
| 1. | Oven is dead.<br>Fuse is OK.<br>No display and no operation at all. | 1. Open or loose lead wire harness.<br>2. Open low voltage transformer<br>3. Defective DPC AU or DPC DU | |
| 2. | Oven does not accept key input (Program). | 1. Key input is not in sequence.<br>2. Shorted push button on DPC AU.<br>3. Defective DPC AU. | Refer to operation procedure.<br><br>Refer to DPC troubleshooting. |
| 3. | Oven lamp and turntable motor turn on when oven is plugged in with door closed | 1. Misadjustment or loose wiring of secondary latch switch.<br>2. Defective secondary latch switch | Adjust door and latch switches. |
| 4. | Timer starts countdown but no microwave oscillation.<br>(No heat while oven lamp and fan motor turn on) | 1. Off-alignment of latch switches<br>2. Open or loose connection of high voltage circuit especially magnetron filament circuit<br>NOTE: Large contact resistance will bring lower magnetron filament voltage and cause magnetron to have lower output and/or be intermittent.<br>3. Defective high voltage component<br>H.V. Inverter NEW H.V. Magnetron<br>4. Open or loose wiring of power relay (RY1)<br>5. Defective primary latch switch.<br>6. Defective power relay RY1 or DPC AU or DU. | Adjust door and latch switches.<br><br>Check high voltage component according to component test procedure and replace if it is defective.<br><br>Refer to DPC troubleshooting. |

**Troubleshooting (No Operation)**

**Figure 2**

| | SYMPTOMS | CAUSE | CORRECTIONS |
|---|---|---|---|
| 1. | No display and no operation at all.<br>10A Fuse is blown. | 1. Shorted lead wire harness<br>2. Defective primary latch switch (NOTE 1)<br>3. Defective short switch (NOTE 1)<br>4. Defective Inverter power supply<br>(U) NEW H.V.<br>Refer to component test procedure | Check adjustment of primary, secondary latch switch and short switch including door. |
| | | NOTE 1: All of these switches must be replaced at the same time.<br>(Refer to adjustment instructions.)<br>Check continuity of power relay Bis contacts (between 1 and 2) and if it has continuity, replace power relay B also. | |

## Troubleshooting (Fuse is blown)

## Figure 3

| | SYMPTOMS | CAUSE | CORRECTIONS |
|---|---|---|---|
| 1 | Microwave output is low.<br>Oven takes longer time to cook food. | 1. Decrease in power source voltage<br>2. Open or loose wiring of magnetron filament circuit. (Intermittent oscillation)<br>3. Aging change of magnetron. | Consult electrician<br>Refer to output test procedures by water temperature raising test. |
| 2 | Loud buzzing noise can be heard. | 1. Loose fan and fan motor | |
| 3 | Turntable motor does not rotate. | 1. Open or loose wiring of turntable motor<br>2. Defective turntable motor | |
| 4 | Oven stops operation during cooking. | 1. Open or loose wiring of primary and secondary latch switch | Adjust door and latch switches. |
| 5 | Oven returns to plug in mode 9 seconds after the start pad is pressed in sensor cooking mode. | 1. Open steam sensor circuit<br>2.. Defective steam sensort | **NN-T591 NN-T571** |

## Troubleshooting (Other problems)

## Figure 4

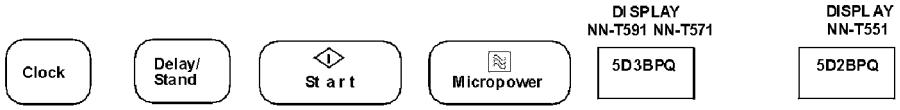
**Troubleshooting of Inverter Circuit (U) and Magnetron** **NEW H.V.**

**Oven shuts down after approximately 15 or 33 seconds.**

If the microwave oven shuts down after a short time in micropower mode, conduct the following test.

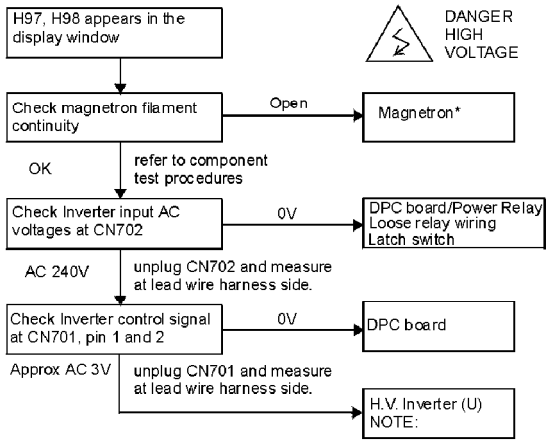
The microwave oven must be set in test mode to activate the self diagnostic failure code system.

SELF TEST MODE




When oven is set in test mode place water load in oven, set micropower to high and time to 1 minute, press start.

H97, H98 appears in display window a short time after start key is pressed and there is no microwave oscillation.


H97, H98 appears in the display window
DANGER HIGH VOLTAGE
Check magnetron filament continuity
Open
Magnetron*
OK
refer to component test procedures
Check Inverter input AC voltages at CN702
0V
DPC board/Power Relay Loose relay wiring Latch switch
AC 240V
unplug CN702 and measure at lead wire harness side.
Check Inverter control signal at CN701, pin 1 and 2
0V
DPC board
Approx AC 3V
unplug CN701 and measure at lead wire harness side.
H.V. Inverter (U) NOTE:

NOTE: DO NOT try to REPAIR this Inverter Power Supply(U) and also DO NOT RE-ADJUST PRESET VOLUME on the board. It is very dangerous to repair or adjust without sufficient test equipment because this circuit handles very high voltage and very large current. Off alignment of inverter board operation is dangerous. Operating a misaligned Inverter circuit is dangerous due to the very high voltage and current that is produced by this board. Defective boards must be replaced with a new one.

*Check magnetron filament for open or short to casing before proceeding to determine a good magnetron.

## Troubleshooting Inverter by Input out voltage

## Figure 5

**Alternative way to troubleshooting oven with AC Ampare meter used.** **NEW H.V.**

**Oven shuts down after approximately 15 or 33 seconds.**

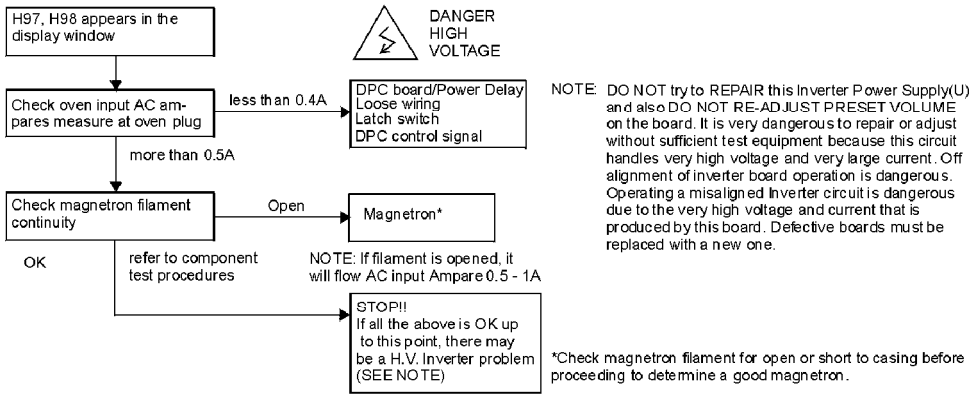
If the microwave oven shuts down after a short time in micropower mode, conduct the following test.

The microwave oven must be set in test mode to activate the self diagnostic failure code system.

SELF TEST MODE

When oven is set in test mode place water load in oven, set micropower to high and time to 1 minute, press start.

H97, H98 appears in display window a short time after start key is pressed and no microwave oscillation with AC Ampare meter used for troubleshooting.


H97, H98 appears in the display window
DANGER HIGH VOLTAGE
Check oven input AC amperes measure at oven plug
less than 0.4A
DPC board/Power Delay
Loose wiring
Latch switch
DPC control signal
more than 0.5A
Check magnetron filament continuity
Open
Magnetron*
OK
refer to component test procedures
NOTE: If filament is opened, it will flow AC input Ampare 0.5 - 1A
STOP!!
If all the above is OK up to this point, there may be a H.V. Inverter problem (SEE NOTE)
NOTE: DO NOT try to REPAIR this Inverter Power Supply(U) and also DO NOT RE-ADJUST PRESET VOLUME on the board. It is very dangerous to repair or adjust without sufficient test equipment because this circuit handles very high voltage and very large current. Off alignment of inverter board operation is dangerous. Operating a misaligned Inverter circuit is dangerous due to the very high voltage and current that is produced by this board. Defective boards must be replaced with a new one.
*Check magnetron filament for open or short to casing before proceeding to determine a good magnetron.

**Troubleshooting Inverter by Microwave Oven Input Current**

# 12. Digital Programmer Circuit Troubleshooting Guide

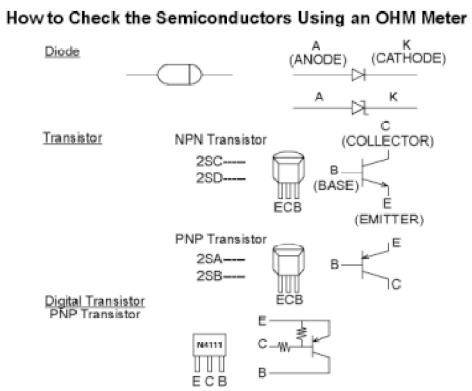
*Trouble Related to Digital Programmer Circuit*

| SYMPTOM | STEP | CHECK | RESULT | CAUSE/CORRECTIONS |
|---|---|---|---|---|
| No display when oven is first plugged in.<br><br>Oven is dead. | 1 | Fuse pattern of DPC | Normal | STEP 2 |
| | | | Open (NOTE) | Shorted Circuit of ZNR, L.V.T., Oven Lamp etc. Replace DPC |
| | 2 | IC10 Pin 9 (12V line) | Abnormal 0V | IC10 |
| | | | Normal 12V | → Step 3 |
| | 3 | IC-1 Pin73voltage (Emitter of Q10) | Abnormal | ZD10, Q10, Ribbon Cable |
| | | | Normal = 5V | → Step 4 |
| | 4 | IC-1 pin 27 voltage (15 pin of IC220) | Abnormal | IC-220 |
| | | | Normal | → IC-1, CX1 |

NOTE
Procedure of fuse pattern repairing is as follows:
1. When the fuse pattern (PF2) opens.
(1) Remove the jumper wire (PF3).
(2) Insert the removed jumper wire (PF3) to i(PF2)î position and solder it. If both iPF2î and iPF3î fuse patterns are open, ple ase replace DPC.
NOTE: * At the time of these repairs, make visual inspection of the varistor for burning damage and examine the transformer wit h tester for the presence of layer short-circuit (check primary coil resistance).
If any abnormal condition is detected, replace the defective parts.

| SYMPTOM | STEP | CHECK | RESULT | CAUSE/CORRECTIONS |
|---|---|---|---|---|
| No key input | 1 | Push button switch | Abnormal | Push button switch |
| | | | Normal | IC-1 |
| No beep sound | 1 | IC-1 pin 12, voltage | Abnormal | IC-1 |
| | | | Normal | IC220, BZ310 |
| Power relay A(RY-2) does not turn on even though the program has been set and the start pad is tapped. | 1 | IC-1 pin 23voltage while operation | Abnormal | IC-1 |
| | | | Normal = 5V | → Step 2 |
| | 2 | Short circuit between pin 6 and pin 16 of IC-2 | Still not turn on | RY-2 |
| | | | RY-2 turns on | IC-220 |
| No microwave oscillation at any power setting. | 1 | IC-1 pin 18 and 16 voltages while operation at high power | Abnormal | IC-1 |
| | | | Normal<br>18--5V,16---5V | → Step 2 |
| | 2 | Q221 transistor | | |
| Dark or unclear display | 1 | Replace display and check operation | Normal | DISPLAY |
| | | | Abnormal | IC-1 |
| Missing or lighting of unnecessary segment | 1 | Replace IC-1 and check operation | Normal | IC-1 |
| | | | Abnormal | DISPLAY |
| Oven shuts down on Micropower after a short time (set in test mode) (set high power 1 Min) H97/H98 appears in window and oven stops operation. Program High power for 1 minute and conduct following test quickly, unless H97/H98 appears and oven stops.<br>NEW H.V. | 1 | Unplug CN702(2 pin) connector and measure voltage between terminals | 0V | 1. Latch switch<br>2. DPC/Power relay |
| | | | AC line voltage of 240V | → Step 2 |
| | 2 | Unplug CN701(3 pin) connector and measure pin 1 voltage | 0V | 1. DPC |
| | | | Approx. AV 3V | 1. Magnetron<br>2. Inverter |

**Figure 2**




| | FORWARD | REVERSE |
|---|---|---|
| A-K | SMALL | ∞ |

| | FORWARD | REVERSE |
|---|---|---|
| B-E | SMALL | ∞ |
| B-C | SMALL | ∞ |
| C-E | ∞ | ∞ |

| | FORWARD | REVERSE |
|---|---|---|
| E-B | SMALL | ∞ |
| C-B | SMALL | ∞ |
| C-E | ∞ | ∞ |

| | FORWARD | REVERSE |
|---|---|---|
| E-B | 10kΩ~30kΩ | 10kΩ~30kΩ |
| C-B | 50kΩ~90kΩ | ∞ |
| C-E | 40kΩ~80kΩ | ∞ |

**How to test the semiconductors**

# 13. Main Parts List

## 1. Part numbers are indicated on most mechanical parts. Please use these part numbers for part orders. Do not use the description of the part.

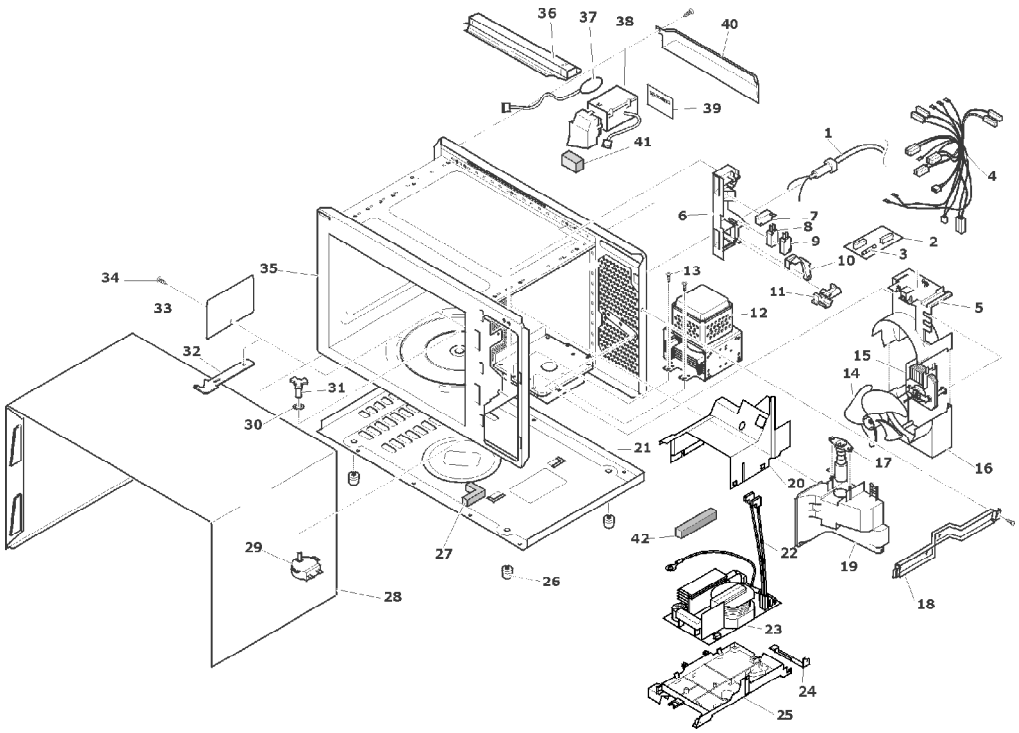
**Important safety notice**

## 1. Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only the manufacturers specified parts.

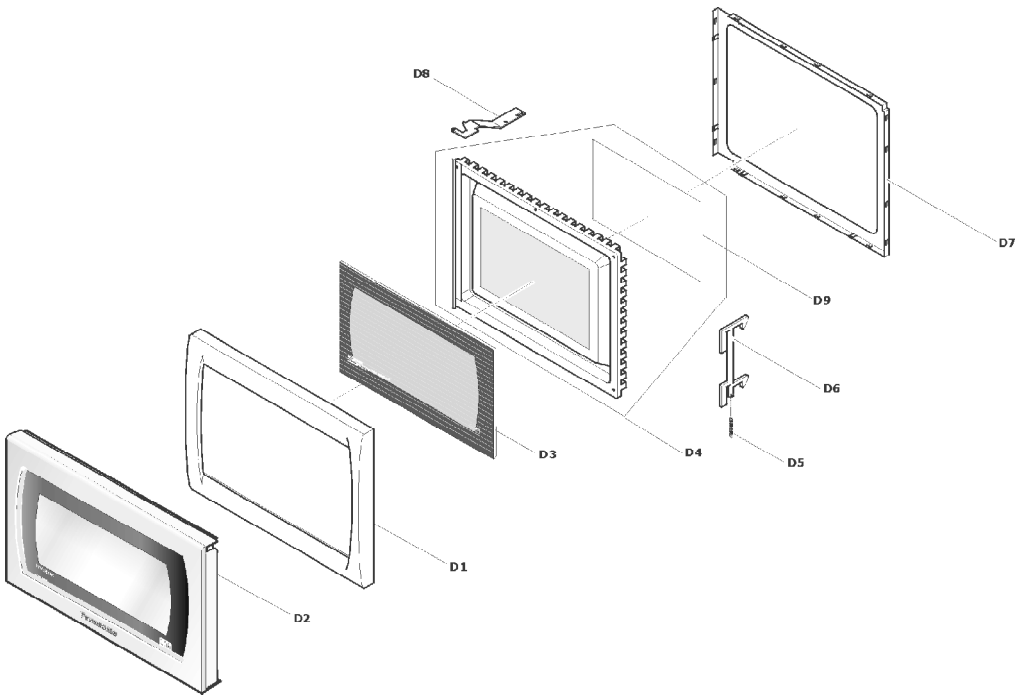
| Ref. No. | | Part Number | Part name and description | Qty | Remarks |
|---|---|---|---|---|---|
| 1 | ⚠ | E900C6430BP | POWER SUPPLY CORD | 1 | |
| 2 | ⚠ | E607X4L00BP | NOISE FILTER | 1 | |
| 3 | ⚠ | E67597550GP | CERAMIC FUSE 10A | 1 | |
| 4 | ⚠ | E030A5D20BP | LEADWIRE HARNESS | 1 | |
| 5 | | E41444N30BP | UPPER ORIFICE | 1 | |
| 6 | | E30208000BP | DOOR HOOK | 1 | |
| 7 | ⚠ | E6142-1450 | PRIMARY LATCH SWITCH | 1 | V-16G-3C26-M |
| 8 | ⚠ | E61785180AP | SHORT SWITCH | 1 | L-2C2-2 |
| 9 | ⚠ | E61425180AP | SECONDARY LATCH SWITCH | 1 | L-3C2-2 |
| 10 | | E31384830AP | HOOK SPACER C | 1 | |
| 11 | | E31374830AP | HOOK SPACER B | 1 | |
| 12 | ⚠ | 2M236-M42G | MAGNETRON | 1 | |
| 13 | | XTWANE4+12B | SCREW | 4 | |
| 14 | | E4008-1640 | FAN BLADE | 1 | |
| 15 | ⚠ | E400A4760JP | FAN MOTOR | 1 | |
| 16 | | E42094N30BP | LOWER ORIFICE | 1 | |
| 17 | ⚠ | E610T5D00BP | OVEN LAMP UNIT | 1 | |
| 18 | | E20994N30BP | REINFORCEMENT BRACK | 1 | |
| 19 | | E40254N40GS | AIR GUIDE A | 1 | |
| 20 | | E40474V00BP | AIR GUIDE E | 1 | |
| 21 | | E10014N30BP | BASEPLATE | 1 | |
| 22 | ⚠ | E030E4N30BP | HV LEADWIRE | 1 | |
| 23 | ⚠ | E606Y4V00BP | INVERTER | 1 | |
| 24 | | E66014V00BP | INVERTER EARTH BRACKET | 1 | |
| 25 | | E65854V00BP | INVERTOR SUPPORT BRACKET | 1 | |
| 26 | | E1008-1180 | RUBBER FOOT | 4 | |
| 27 | | E09020000AH | CUSHION RUBBER | 1 | |
| 28 | | E110D5D20HBP | OUTER PANEL | 1 | NN-T591WB NN-T551WB |
| 28 | | E110D5V00SBP | OUTER PANEL | 1 | NN-T571SB |
| 28 | | E110D4V00BP | OUTER PANEL | 1 | NN-T551CB |
| 29 | ⚠ | E63268960JP | TT MOTOR | 1 | |
| 30 | | AEE2177-F80 | PULLEY SHAFT WASHER | 1 | |
| 31 | | E21315540AP | PULLY SHAFT | 1 | |
| 32 | | E30074L00GS | BOTTOM HINGE | 1 | |
| 33 | | E20554L00GS | COVER A | 1 | |
| 34 | | XST4+W5V | SCREW | 1 | |
| 35 | | E200A4N20BP | OVEN CAVITY | 1 | NN-T591WB NN-T571SB |
| 35 | | E200A5D20BP | OVEN CAVITY | 1 | NN-T551WB NN-T551CB |
| 36 | ⚠ | E64504N50BP | SENSOR COVER B | 1 | NN-T591WB NN-T571SB |
| 37 | ⚠ | E607S7050AP | STEAM SENSOR | 1 | NN-T591WB NN-T571SB |
| 38 | ⚠ | E407F8010BP | STEAM SENSOR ASSY | 1 | NN-T591WB NN-T571SB |
| 39 | | E00064080BP | WARNING LABEL | 1 | |
| 40 | | E40244N30BP | EXHAUST GUIDE | 1 | |

| Ref. No. | | Part Number | Part name and description | Qty | Remarks |
|---|---|---|---|---|---|
| 41 | | E09250000BD | CUSHION RUBBER | 2 | NN-T591 NN-T571 |
| 42 | | E09230000AD | CUSHION RUBBER | 1 | |

# 14. Exploded View



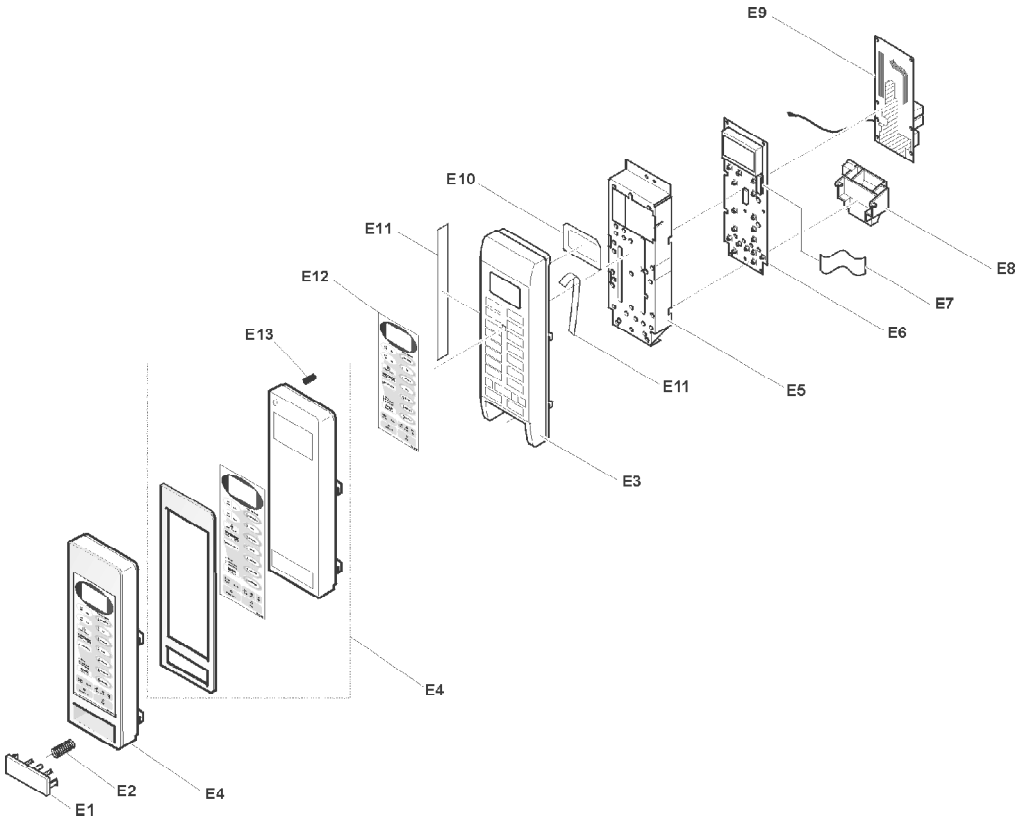

# 15. Door Assembly



| Ref. No. | | Part No. | Part Name & Description | Qty | Remarks |
|---|---|---|---|---|---|
| D1 | | E30014N30HBP | DOOR A | 1 | NN-T591WB NN-T551WB |
| D1 | | E30014N30BP | DOOR A | 1 | NN-T551CB |
| D2 | | E302A4N20SBP | DOOR A ASSEMBLY | 1 | NN-T571SB |
| D3 | | E31464N00BP | DOOR SCREEN B | 1 | NN-T591WB NN-T551WB NN-551CB |
| D4 | ⚠ | E302K4N00BP | DOOR E ASSEMBLY | 1 | |
| D5 | | E30214000AP | DOOR KEY SPRING | 1 | |
| D6 | | E30184L00GS | DOOR KEY | 1 | |
| D7 | | E30854N30BP | DOOR C | 1 | |
| D8 | | E30064N30BP | UPPER HINGE | 1 | |
| D9 | | E31454N00BP | DOOR SCREEN A | 1 | |

**NOTE: When ordering any Door component also order door C as this part may become damaged during disassembly.**

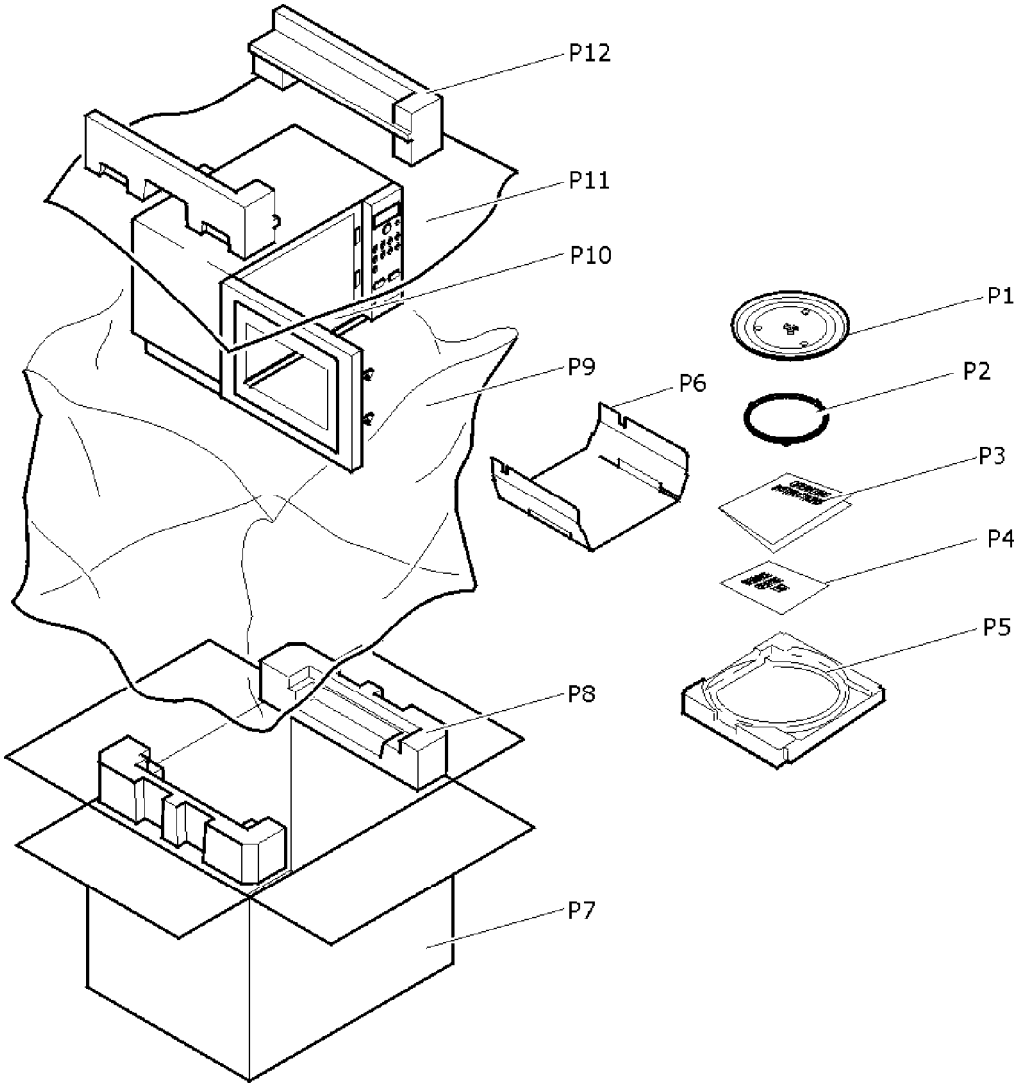
# 16. Escutcheon Base



| Ref. No. | | Part No. | Part Name & Description | Qty | Remarks |
|---|---|---|---|---|---|
| E1 | | E80724L10HBP | DOOR OPENING BUTTON | 1 | NN-T591WB NN-T551WB |
| E1 | | E80725D00SBP | DOOR OPENING BUTTON | 1 | NN-T571SB |
| E1 | | E80724L10BP | DOOR OPENING BUTTON | 1 | NN-T551CB |
| E2 | | E80378AOAG | SPRING | 1 | |
| E3 | | E80344L10HBP | ESCUTCHEON BASE | 1 | NN-T591WB NN-T551WB |
| E3 | | E80344L10BP | ESCUTCHEON BASE | 1 | NN-T551CB |
| E4 | | E800S5D30SBP | ESCUTCHEON BASE ASSY | 1 | NN-T571SB |
| E5 | | E81274L10BP | ESCUTCHEON BACK PLATE | 1 | NN-T591WB NN-T551WB NN-T551CB |
| E5 | | E81274V00SBP | ESCUTCHEON BACK PLATE | 1 | NN-T571SB |
| E6 | ⚠ | E603L5D30BP | DPC AU | 1 | NN-T591WB NN-T571SB |
| E6 | ⚠ | E603L5D20BP | DPC AU | 1 | NN-T551WB NN-T551CB |
| E7 | | E66164L00GS | RIBBON CABLE | 1 | |
| E8 | | E82564L10BP | DOOR OPENING LEVER | 1 | NN-T591WB NN-T551WB NN-T551CB |
| E8 | | E82564V00SBP | DOOR OPENING LEVER | 1 | NN-T571SB |
| E9 | ⚠ | E603Y5D30BP | DPC DU | 1 | NN-T591WB NN-T571SB |
| E9 | ⚠ | E603Y5D20BP | DPC DU | 1 | NN-T551WB NN-T551CB |
| E10 | | E83264L10BP | DISPLAY SHEET | 1 | |
| E11 | | E00075D30BP | NAME PLATE | 1 | NN-T591WB NN-T571SB |
| E11 | | E00075D20BP | NAME PLATE | 1 | NN-T551WB NN-T551CB |
| E12 | ⚠ | E83375D30HBP | ESCUTCHEON SHEET | 1 | NN-T591WB |
| E12 | ⚠ | E83375D20HBP | ESCUTCHEON SHEET | 1 | NN-T551WB |
| E12 | ⚠ | E83375D20BP | ESCUTCHEON SHEET | 1 | NN-T551CB |
| E13 | | E80074L00SGS | SPRING | 1 | NN-T571SB |

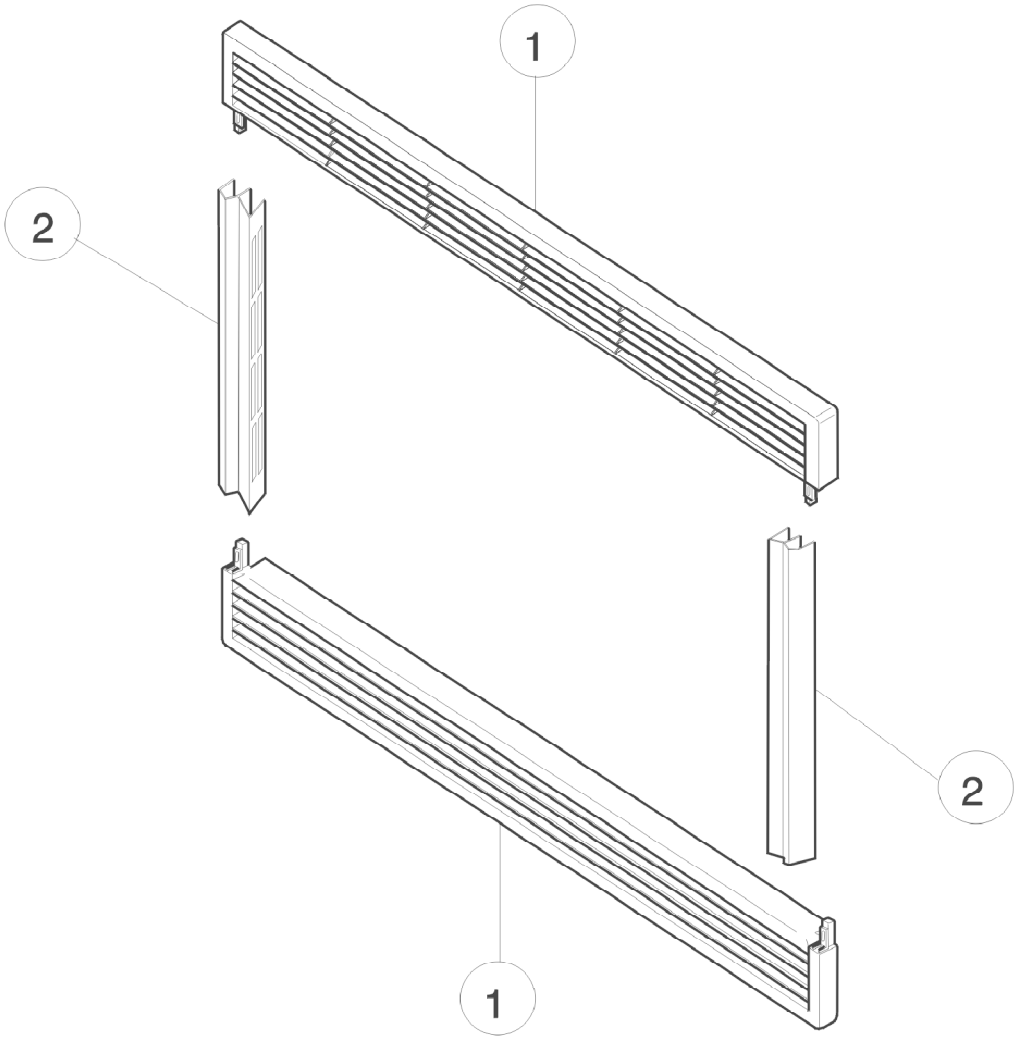
**NOTE: Please order the escutcheon base and name plate together**
**NOTE: When replacing the stainless escutcheon assembly, be sure that the fascia is earthed to the back plate via the earth spring.**

# 17. Packing And Accessories



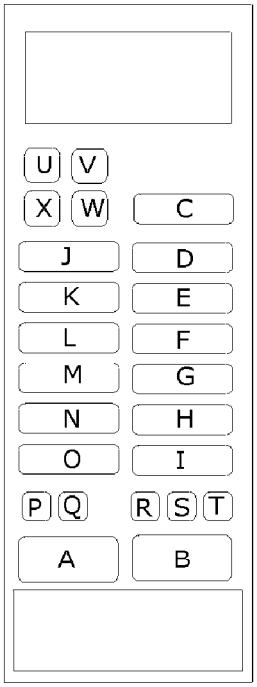

| Ref. No. | | Part No. | Part Name & Description | Qty | Remarks |
|---|---|---|---|---|---|
| P1 | | E06014N30BP | GLASS TRAY | 1 | |
| P2 | | E290D5D20BP | ROLLER RING UNIT | 1 | |
| P3 | | E00035D20BP | COOK BOOK | 1 | |
| P4 | | E01695750BP | SERVICE CENTER LIST | 1 | |
| P5 | | E01134N30BP | TRAY STYROL | 1 | |
| P6 | | E01084N30BP | TRAY PACKING | 1 | |
| P7 | | E01025D30HBP | CARTON BOX | 1 | NN-T591WB |
| P7 | | E01025D30SBP | CARTON BOX | 1 | NN-T571SB |
| P7 | | E01025D20HBP | CARTON BOX | 1 | NN-T551WB |
| P7 | | E01025D20BP | CARTON BOX | 1 | NN-T551CB |
| P8 | | E01054N30BP | LOWER FILLER | 1 | |
| P9 | | E01064N70GS | VINYL BAG | 1 | |
| P10 | | E01076700BP | DOOR SHEET | 1 | |
| P11 | | E01926430GP | PROTECTOR SHEET | 1 | |
| P12 | | E01044N30BP | UPPER FILLER | 1 | |

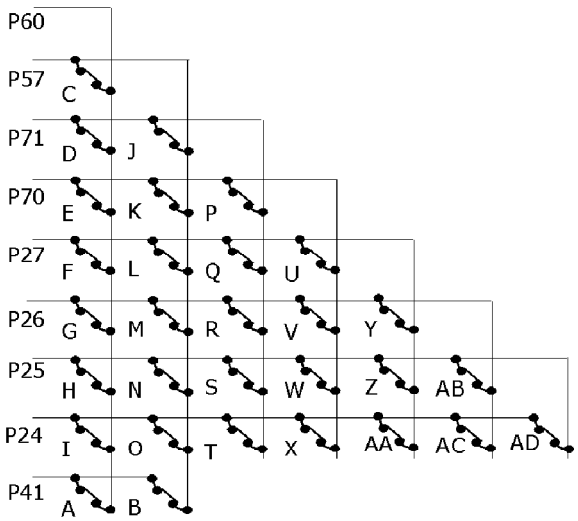
# 18. Trim Kit Accessories




| Trim kit. No. | Ref 1<br>Top And Bottom Trim | Set | Ref 2<br>Side Trim | Set | Remarks |
|---|---|---|---|---|---|
| NN-TKV69W | E1603A510HBP | 2 | E1601A510HBP | 2 | NN-T591WB NN-T551WB |
| NN-TKV69C | E1603A510BP | 2 | E1601A510BP | 2 | NN-T551CB |
| Trim kit assemmbly Instruction | | | E0003A4N30BP | | |

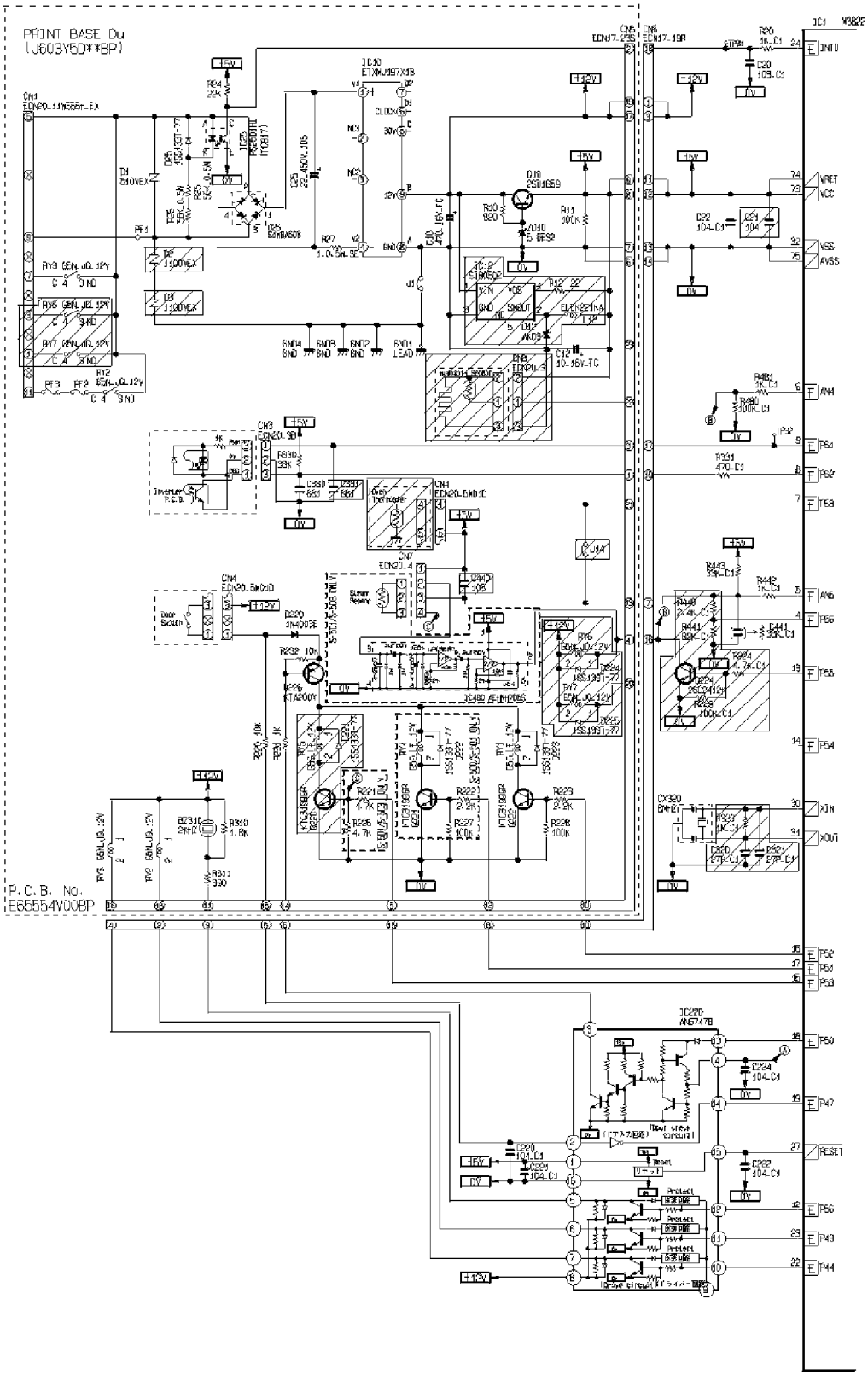
# 19. Key Board Matrix



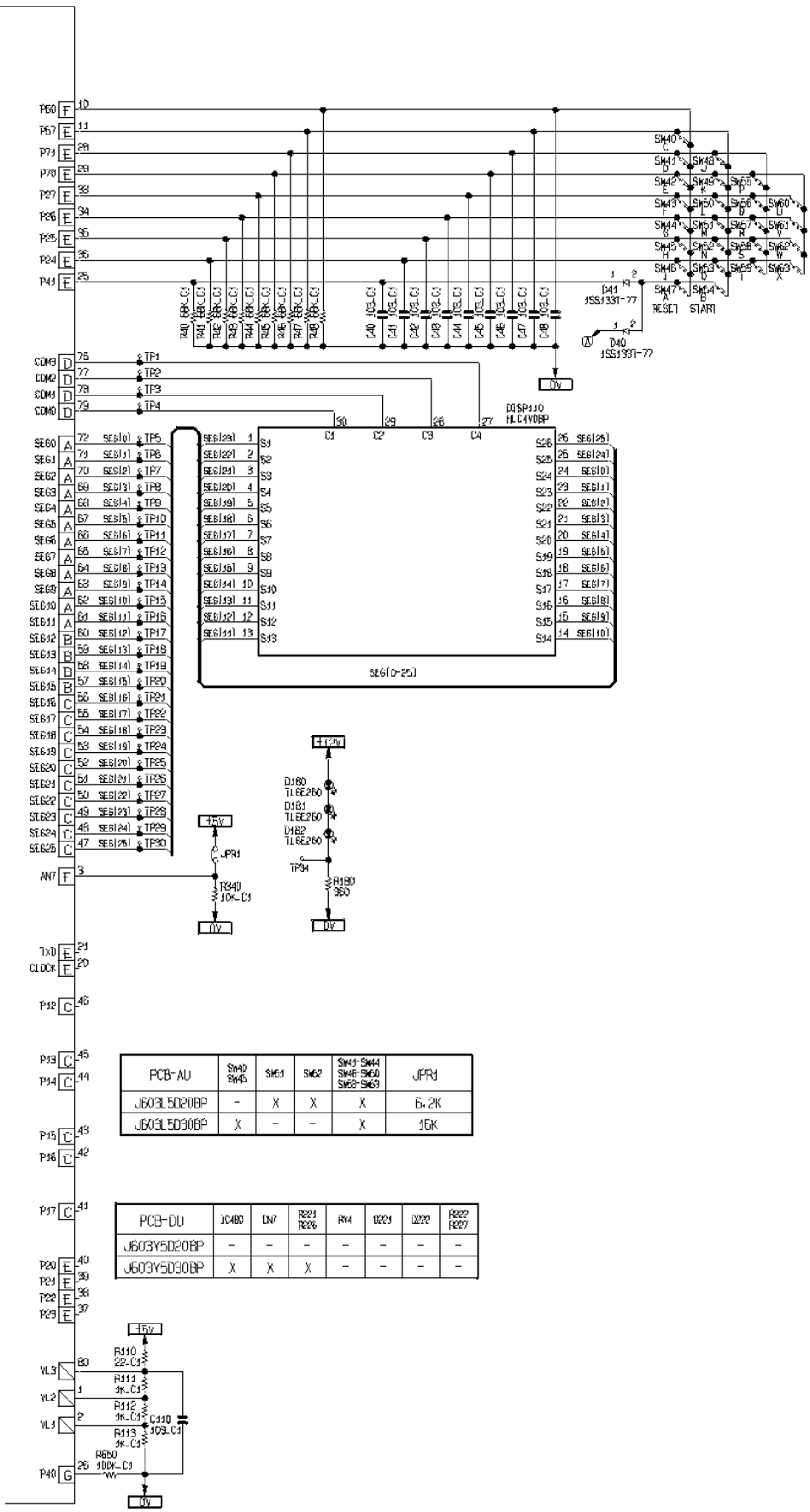




| | | 5D2BP | 5D3BP |
|---|---|---|---|
| A | SW47 | STOP | STOP |
| B | SW54 | START | START |
| C | SW40 | - | AUTO |
| D | SW41 | AUTO | AUTO |
| E | SW42 | AUTO | AUTO |
| F | SW43 | AUTO | AUTO |
| G | SW44 | AUTO | AUTO |
| H | SW45 | AUTO | AUTO |
| I | SW46 | W.DEFROST | AUTO |
| J | SW48 | TURBO | MICRO |
| K | SW49 | 900 HIGH | TURBO |
| L | SW50 | 270 DEF | SENSOR |
| M | SW51 | 600 MED | |
| N | SW52 | 440 LOW | - |
| O | SW53 | 250 SIM | W.DEFROST |
| P | SW55 | DELAY | DELAY |
| Q | SW56 | CLOCK | CLOCK |
| R | SW57 | LB/OZ | LB/OZ |
| S | SW58 | UP | UP |
| T | SW59 | DOWN | DOWN |
| U | SW60 | 10 MIN | 10 MIN |
| V | SW61 | 1 MIN | 1 MIN |
| W | SW62 | 1 SEC | 1 SEC |
| X | SW63 | 10 SEC | 10 SEC |
| Y | | | |
| Z | | | |
| AA | | | |
| AB | | | |
| AC | | | |

# 20. Digital programmer Circuit




**DPC Schematic 1**



| PCB-AU | SW40 SW45 | SW51 | SW52 | SW41~SW44 SW46~SW50 SW53~SW63 | JPR1 |
|---|---|---|---|---|---|
| J603L5D20BP | - | X | X | X | 6.2K |
| J603L5D30BP | X | - | - | X | 15K |

| PCB-DU | IC480 | DN7 | R221 R226 | RN4 | D221 | D222 | R222 R227 |
|---|---|---|---|---|---|---|---|
| J603Y5D20BP | - | - | - | - | - | - | - |
| J603Y5D30BP | X | X | X | - | - | - | - |

# 21. Digital programmer circuit parts list

## 21.1. E603L5D30BP DPC AU

| Ref. No. | Part No. | Part Name & Description | Qty | Remarks |
|---|---|---|---|---|
| R180 | ERDS2TJ361T | 360R Carbon Resistor | 1 | |
| D40,D41 | AESS133T-77 | Diode | 2 | |
| D180-D182 | AESQTLGE260T | Green LED | 3 | |
| CX320 | EF0EC8004T4 | Ceramic Resonator | 1 | |
| SW40-SW50 SW53-SW63 | EVQ11L05R | Push Switch | 22 | |
| C110 C20 C40-C48 | AECU1F103Z50 | 10nF Chip Capacitor | 11 | |
| C220 C221 C222 C224 C22 | AECU1F104Z25 | 100nF Chip Capacitor | 5 | |
| R111-113 R20 R442 | AERJ3GSYJ102 | 1K Chip Resistor | 5 | |
| R481 | AERJ3GSYJ102 | 1K Chip Resistor | 1 | |
| R340 | AERJ3GSYJ103 | 10K Chip Resistor | 1 | |
| R650 | AERJ3GSYJ104 | 100K Chip Resistor | 1 | |
| R480 | AERJ3GSYJ104 | 100K Chip Resistor | 1 | |
| R110 | AERJ3GSYJ220 | 22R Chip Resistor | 1 | |
| R331 | AERJ3GSYJ471 | 470R Chip Resistor | 1 | |
| C441 R443 | AERJ3GSYJ333 | 33K Chip Resistor | 2 | |
| R40-R48 | AERJ3GSYJ683 | 68K Chip Resistor | 9 | |
| IC1 | AEIC8224H150 | LSI M3822 (24K) | 1 | |
| | A611A4J01XN | Display Holder Unit | 1 | |
| DISP110 | AEDDHL4V00BP | LCD (NEW) | 1 | |
| CN6 | AEEM19FESVKN | CONNECTOR | 1 | |
| IC220 | AN6747B | Custom IC | 1 | |
| JPR1 | ERDS2TJ163T | 16K Carbon resistor | | |
| | E62604V00BP | Print Board(A) | 1 | |

## 21.2. E603Y5D30BP DPC DU

| Ref. No. | Part No. | Part Name & Description | Qty | Remarks |
|---|---|---|---|---|
| ZD10 | AESZMTZ5R6B | Zener Diode | 1 | |
| D223 | AESS133T-77 | Silicon Diode | 2 | |
| D25 | AESS133T-77 | Silicon Diode | 1 | |
| D220 | AESS1N4003E | Silicon Diode | 1 | |
| C330 | ECBT1H681KB5 | 680PF Capacitor | 1 | |
| R25,R26 | ERDS1FJ563T | 56K 1/2 Watt Resistor | 2 | |
| R220 R232 | ERDS2TJ103T | 10K Resistor | 2 | |
| R11 R228 | ERDS2TJ104T | 100K Resistor | 3 | |
| R231 | ERDS2TJ102T | 1.0K Resistor | 1 | |
| R223 | ERDS2TJ222T | 2.2K Resistor | 2 | |
| R221 R226 | ERDS2TJ472T | 4.7K Resistor | 2 | |
| R24 | ERDS2TJ223T | 22K Resistor | 1 | |
| R330 | ERDS2TJ333T | 33K Carbon Resistor | 1 | |
| R311 | ERDS2TJ391T | 390 Resistor | 1 | |
| R10 | ERDS2TJ821T | 820 Resistor | 1 | |
| R310 | ERSD2TJ182T | 1.8K Resistor | 1 | |
| Q10 | 2SD1859TV2 | Transistor | 1 | |
| Q226 | AESAKTA200Y | PNP Transistor | 1 | |
| Q222 | AESCKTC3199GR | NPN Transistor | 2 | |
| C10 | EEUFC1C471B | 470uF 16 V Elect Capa | 1 | |
| C12 | ECEA1CKA100B | 10uF 16V Electrolytic Capacitor | 1 | |
| R27 | ERX12SJ1R0E | 1R 1/2 Watt Resistor | 1 | |
| CN7 | AEEMMF00703R | 3 Pin Connector (Steam Sensor) | 1 | |
| CN4 | AEEMXF00D04W | 4 Pin Connector | 1 | |
| RY2 RY3 | AEBGG5N1A12 | 12 V Relay | 2 | |
| RY1 | AEGG5G1A12 | 12 V Relay | 2 | |
| CN5 | AEEM19FEBVKN | 19 Pin Connector | 1 | |
| CN1 | AEEMXD05507W | 7 Pin Connector | 1 | |
| CN3 | E03525D00BP | 3-Wire Inverter Connection | 1 | |
| IC480 | AEHMH705S | Hybrid IC | 1 | |
| IC25 | AEICP25011HL | Photocoupler IC | 1 | |
| D26 | AESTS1WBA60B | Diode Bridge (600V) | 1 | |
| C25 | ECA2WHG220E | 22uF 450V Electrolytic Capacitor | 1 | |
| BZ310 | EFBAH20C001 | 2KHz Buzzer | 1 | |
| D1 | ERZV10D511CS | Varistor 510V | 1 | |
| IC10 | ETXMJ197X1BG | Switching Power Supply | 1 | |

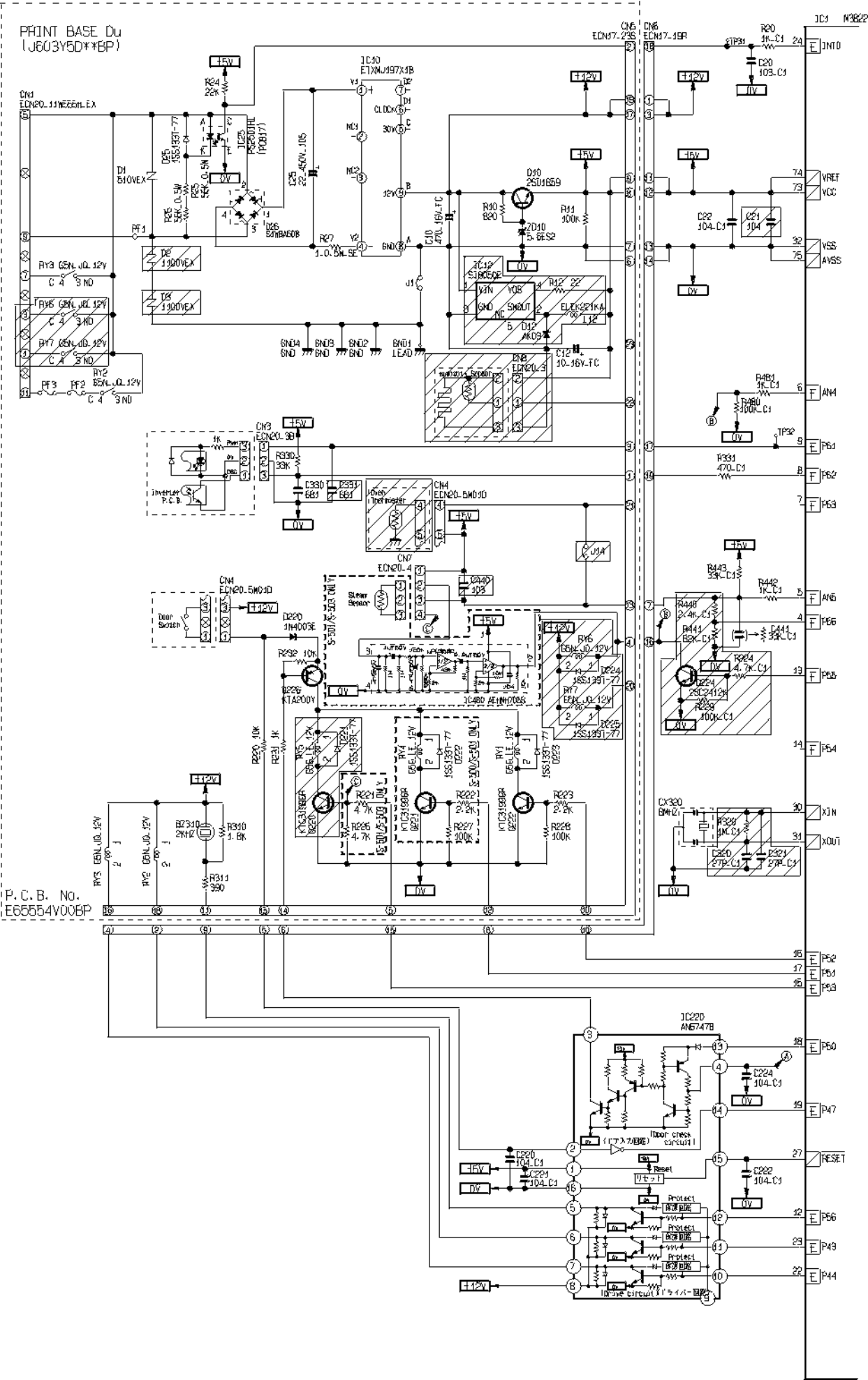
## 21.3. E603L5D20BP DPC AU

| Ref. No. | Part No. | Part Name & Description | Qty | Remarks |
|---|---|---|---|---|
| R180 | ERDS2TJ361T | 360R Carbon Resistor | 1 | |
| D40,D41 | AESS133T-77 | Diode | 2 | |
| D180-D182 | AESQTLGE260T | Green LED | 3 | |
| CX320 | EF0EC8004T4 | Ceramic Resonator | 1 | |
| SW41-SW44 SW46-SW63 | EVQ11L05R | Push Switch | 22 | |
| C110 C20 C40-C48 | AECU1F103Z50 | 10nF Chip Capacitor | 11 | |
| C220 C221 C222 C224 C22 | AECU1F104Z25 | 100nF Chip Capacitor | 5 | |
| R111-113 R20 R442 | AERJ3GSYJ102 | 1K Chip Resistor | 5 | |
| R340 | AERJ3GSYJ103 | 10K Chip Resistor | 1 | |
| R650 | AERJ3GSYJ104 | 100K Chip Resistor | 1 | |
| R110 | AERJ3GSYJ220 | 22R Chip Resistor | 1 | |
| R331 | AERJ3GSYJ471 | 470R Chip Resistor | 1 | |
| C441 R443 | AERJ3GSYJ333 | 33K Chip Resistor | 2 | |
| R40-R48 | AERJ3GSYJ683 | 68K Chip Resistor | 9 | |
| IC1 | AEIC8224H150 | LSI M3822 (24K) | 1 | |
| | A611A4J01XN | Display Holder Unit | 1 | |
| DISP110 | AEDDHL4V00BP | LCD (NEW) | 1 | |
| CN6 | AEEM19FESVKN | CONNECTOR | 1 | |
| IC220 | AN6747B | Custom IC | 1 | |
| | E62604V00BP | Print Board(A) | 1 | |
| JPR1 | ERDS2TJ622T | 6.2K Carbon Resistor | 1 | |

## 21.4. E603Y5D30BP DPC DU

| Ref. No. | Part No. | Part Name & Description | Qty | Remarks |
|---|---|---|---|---|
| ZD10 | AESZMTZ5R6B | Zener Diode | 1 | |
| D223 | AESS133T-77 | Silicon Diode | 2 | |
| D25 | AESS133T-77 | Silicon Diode | 1 | |
| D220 | AESS1N4003E | Silicon Diode | 1 | |
| C330 | ECBT1H681KB5 | 680PF Capacitor | 1 | |
| R25,R26 | ERDS1FJ563T | 56K 1/2 Watt Resistor | 2 | |
| R220 R232 | ERDS2TJ103T | 10K Resistor | 2 | |
| R11 R228 | ERDS2TJ104T | 100K Resistor | 3 | |
| R231 | ERDS2TJ102T | 1.0K Resistor | 1 | |
| R223 | ERDS2TJ222T | 2.2K Resistor | 2 | |
| R24 | ERDS2TJ223T | 22K Resistor | 1 | |
| R330 | ERDS2TJ333T | 33K Carbon Resistor | 1 | |
| R311 | ERDS2TJ391T | 390 Resistor | 1 | |
| R10 | ERDS2TJ821T | 820 Resistor | 1 | |
| R310 | ERSD2TJ182T | 1.8K Resistor | 1 | |
| Q10 | 2SD1859TV2 | Transistor | 1 | |
| Q226 | AESAKTA200Y | PNP Transistor | 1 | |
| Q222 | AESCKTC3199GR | NPN Transistor | 2 | |
| C10 | EEUFC1C471B | 470uF 16 V Elect Capacitor | 1 | |
| C12 | ECEA1CKA100B | 10uF 16V Electrolytic Capacitor | 1 | |
| R27 | ERX12SJ1R0E | 1R 1/2 Watt Resistor | 1 | |
| CN4 | AEEMXF00D04W | 4 Pin Connector | 1 | |
| RY2 RY3 | AEBGG5N1A12 | 12 V Relay | 2 | |
| RY1 | AEGG5G1A12 | 12 V Relay | 2 | |
| CN5 | AEEM19FEBVKN | 19 Pin Connector | 1 | |

| Ref. No. | Part No. | Part Name & Description | Qty | Remarks |
|---|---|---|---|---|
| CN1 | AEEMXD05507W | 7 Pin Connector | 1 | |
| CN3 | E03525D00BP | 3-Wire Inverter Connection | 1 | |
| IC25 | AEICP25011HL | Photocoupler IC | 1 | |
| D26 | AESTS1WBA60B | Diode Bridge (600V) | 1 | |
| C25 | ECA2WHG220E | 22uF 450V Electrolytic Capacitor | 1 | |
| BZ310 | EFBAH20C001 | 2KHz Buzzer | 1 | |
| D1 | ERZV10D511CS | Varistor 510V | 1 | |
| IC10 | ETXMJ197X1BG | Switching Power Supply | 1 | |


PRINT BASE Du
(J603Y5D**BP)
P.C.B. No.
E65554V00BP
IC1 M3822
CN5
ECN17-23G
CN6
ECN17-19R
IC10
ETXNJ197X1B
IC220
AN6747B
CN1
ECN20-11WE66n-EX
CN2
ECN20L-3
CN3
ECN20L-9B
CN4
ECN20-5W01D
CN7
ECN20-4
+5V
+12V
0V
INT0
VREF
VCC
VSS
AVSS
AN4
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P62
P63
AN5
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P64
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P50
P47
RESET
P56
P49
P44
Reset
リセット
Protect
保護回路
Door check circuit
ドアスプ/BME
Drive circuit
ドライバー回路
Inverter P.C.B.
Door Switch
Steam Sensor
Oven Thermistor
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RY3
RY4
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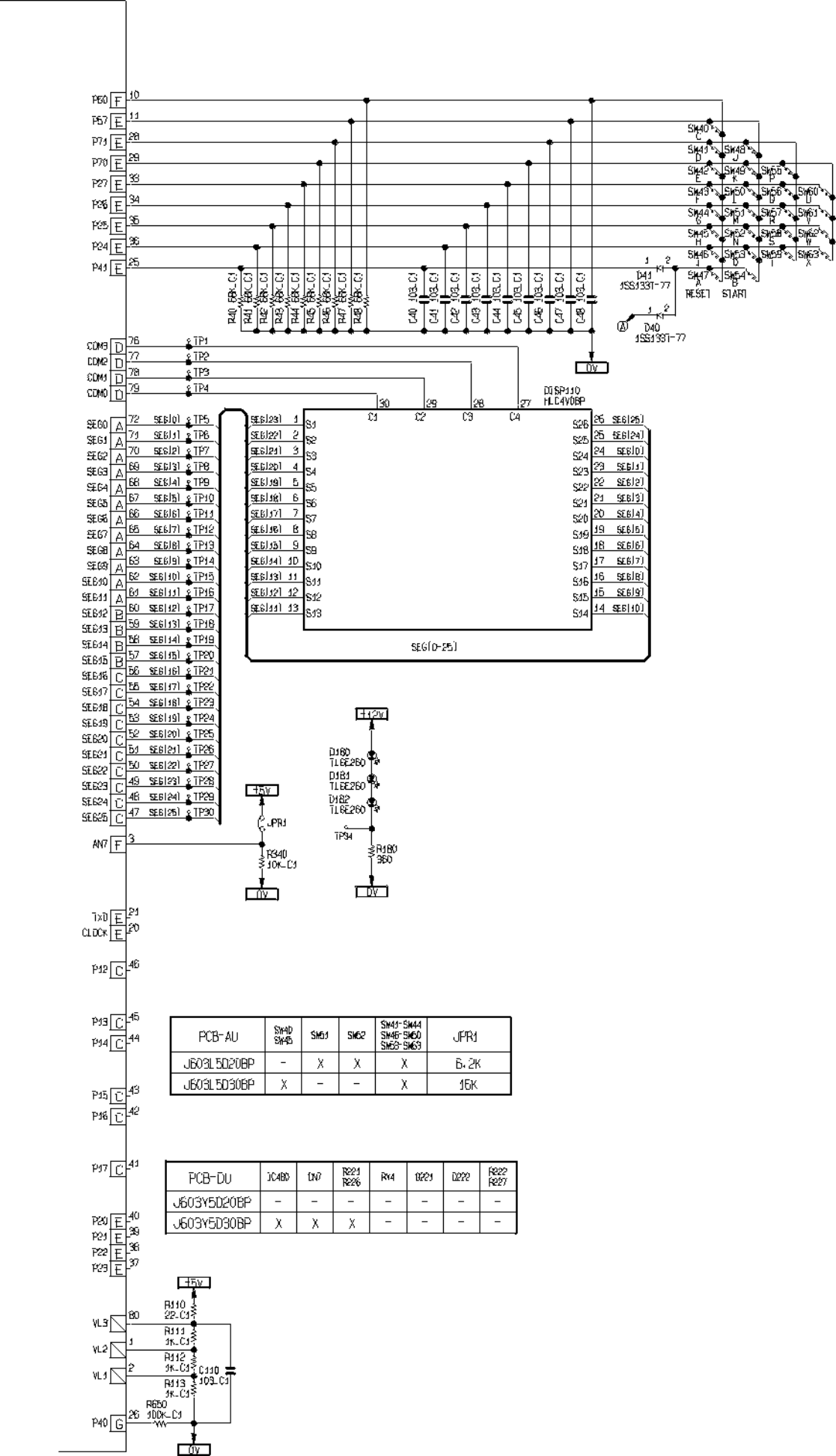
*Trouble Related to Digital Programmer Circuit*

| SYMPTOM | STEP | CHECK | RESULT | CAUSE/CORRECTIONS |
|---|---|---|---|---|
| No display when oven is first plugged in.<br><br>Oven is dead. | 1 | Fuse pattern of DPC | Normal | STEP 2 |
| | | | Open (NOTE) | Shorted Circuit of ZNR, L.V.T., Oven Lamp etc. Replace DPC |
| | 2 | IC10 Pin 9 (12V line) | Abnormal 0V | IC10 |
| | | | Normal 12V | → Step 3 |
| | 3 | IC-1 Pin73voltage (Emitter of Q10) | Abnormal | ZD10, Q10, Ribbon Cable |
| | | | Normal = 5V | → Step 4 |
| | 4 | IC-1 pin 27 voltage (15 pin of IC220) | Abnormal | IC-220 |
| | | | Normal | → IC-1, CX1 |

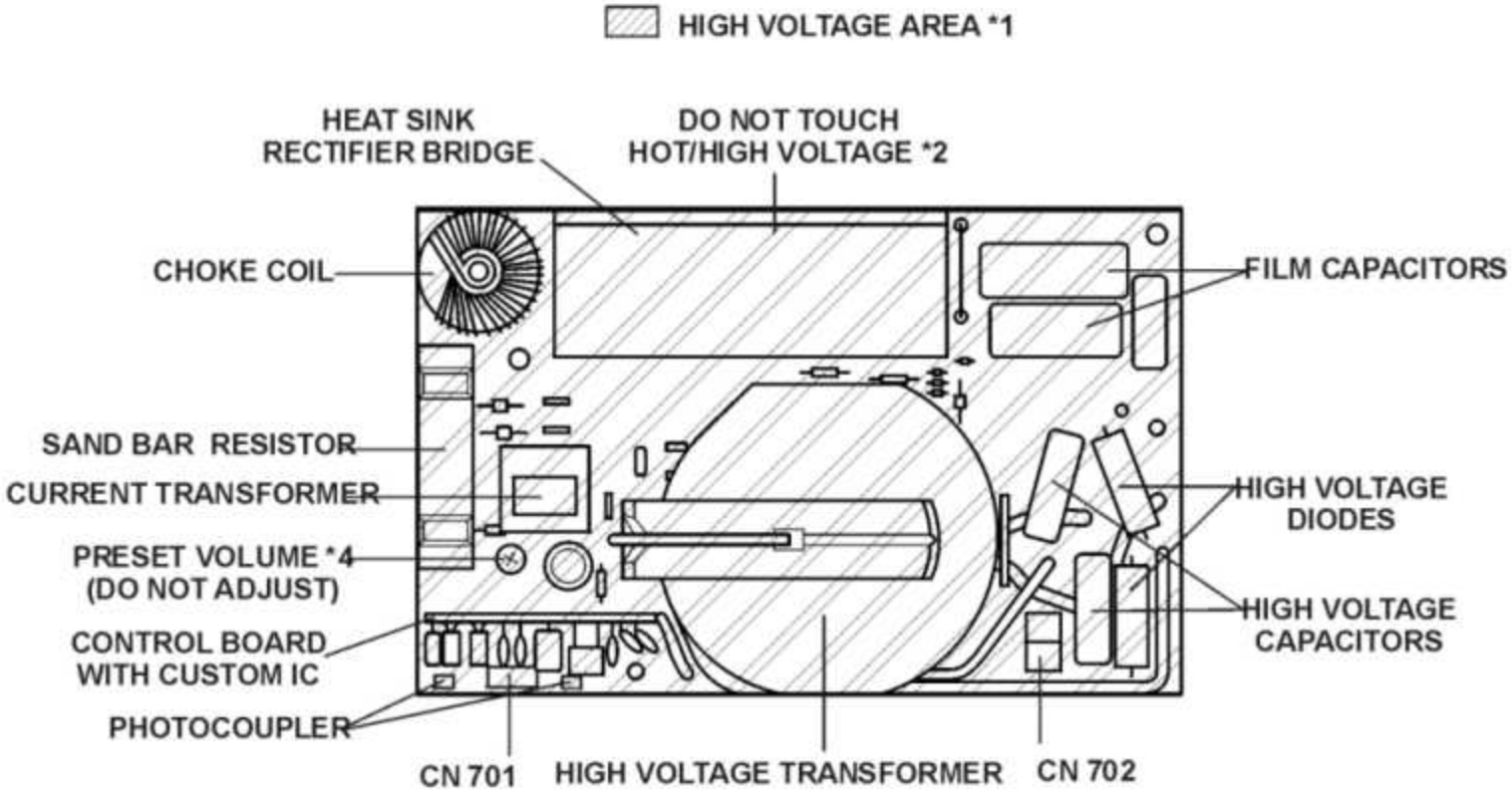
NOTE
Procedure of fuse pattern repairing is as follows:
1. When the fuse pattern (PF2) opens.
(1) Remove the jumper wire (PF3).
(2) Insert the removed jumper wire (PF3) to ì(PF2)î position and solder it. If both ìPF2î and ìPF3î fuse patterns are open, ple ase replace DPC.
NOTE: * At the time of these repairs, make visual inspection of the varistor for burning damage and examine the transformer wit h tester for the presence of layer short-circuit (check primary coil resistance).
If any abnormal condition is detected, replace the defective parts.

| SYMPTOM | STEP | CHECK | RESULT | CAUSE/CORRECTIONS |
|---|---|---|---|---|
| No key input | 1 | Push button switch | Abnormal | Push button switch |
| | | | Normal | IC-1 |
| No beep sound | 1 | IC-1 pin 12, voltage | Abnormal | IC-1 |
| | | | Normal | IC220, BZ310 |
| Power relay A(RY-2) does not turn on even though the program has been set and the start pad is tapped. | 1 | IC-1 pin 23voltage while operation | Abnormal | IC-1 |
| | | | Normal = 5V | → Step 2 |
| | 2 | Short circuit between pin 6 and pin 16 of IC-2 | Still not turn on | RY-2 |
| | | | RY-2 turns on | IC-220 |
| No microwave oscillation at any power setting. | 1 | IC-1 pin 18 and 16 voltages while operation at high power | Abnormal | IC-1 |
| | | | Normal<br>18--5V,16---5V | → Step 2 |
| | 2 | Q221 transistor | | |
| Dark or unclear display | 1 | Replace display and check operation | Normal | DISPLAY |
| | | | Abnormal | IC-1 |
| Missing or lighting of unnecessary segment | 1 | Replace IC-1 and check operation | Normal | IC-1 |
| | | | Abnormal | DISPLAY |
| Oven shuts down on Micropower after a short time (set in test mode) (set high power 1 Min) H97/H98 appears in window and oven stops operation. Program High power for 1 minute and conduct following test quickly, unless H97/H98 appears and oven stops.<br>NEW H.V. | 1 | Unplug CN702(2 pin) connector and measure voltage between terminals | 0V | 1. Latch switch<br>2. DPC/Power relay |
| | | | AC line voltage of 240V | → Step 2 |
| | 2 | Unplug CN701(3 pin) connector and measure pin 1 voltage | 0V | 1. DPC |
| | | | Approx. AV 3V | 1. Magnetron<br>2. Inverter |




| PCB-AU | SW40 SW45 | SW61 | SW62 | SW41-SW44 SW46-SW60 SW63-SW63 | JPR1 |
|---|---|---|---|---|---|
| J603L5D20BP | - | X | X | X | 6.2K |
| J603L5D30BP | X | - | - | X | 15K |

| PCB-DU | IC480 | DN7 | R221 R226 | RN4 | D221 | D222 | R222 R227 |
|---|---|---|---|---|---|---|---|
| J603Y5D20BP | - | - | - | - | - | - | - |
| J603Y5D30BP | X | X | X | - | - | - | - |


HIGH VOLTAGE AREA *1
HEAT SINK
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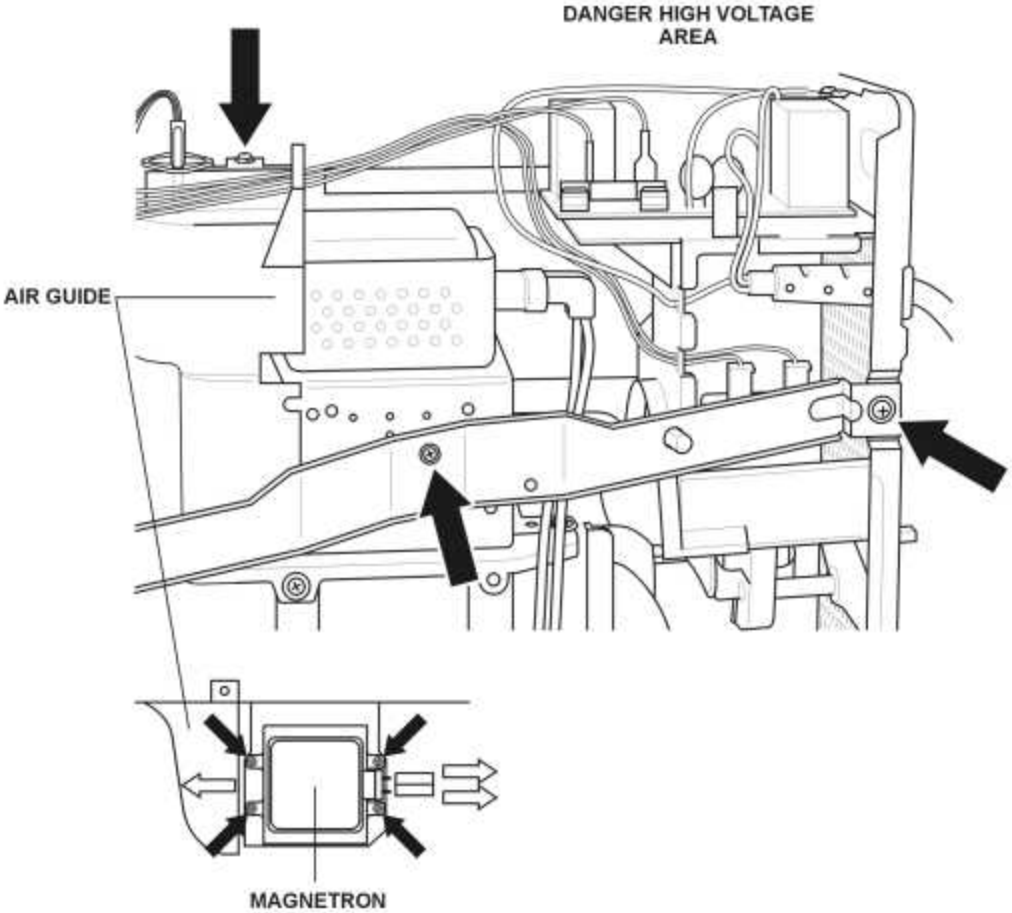
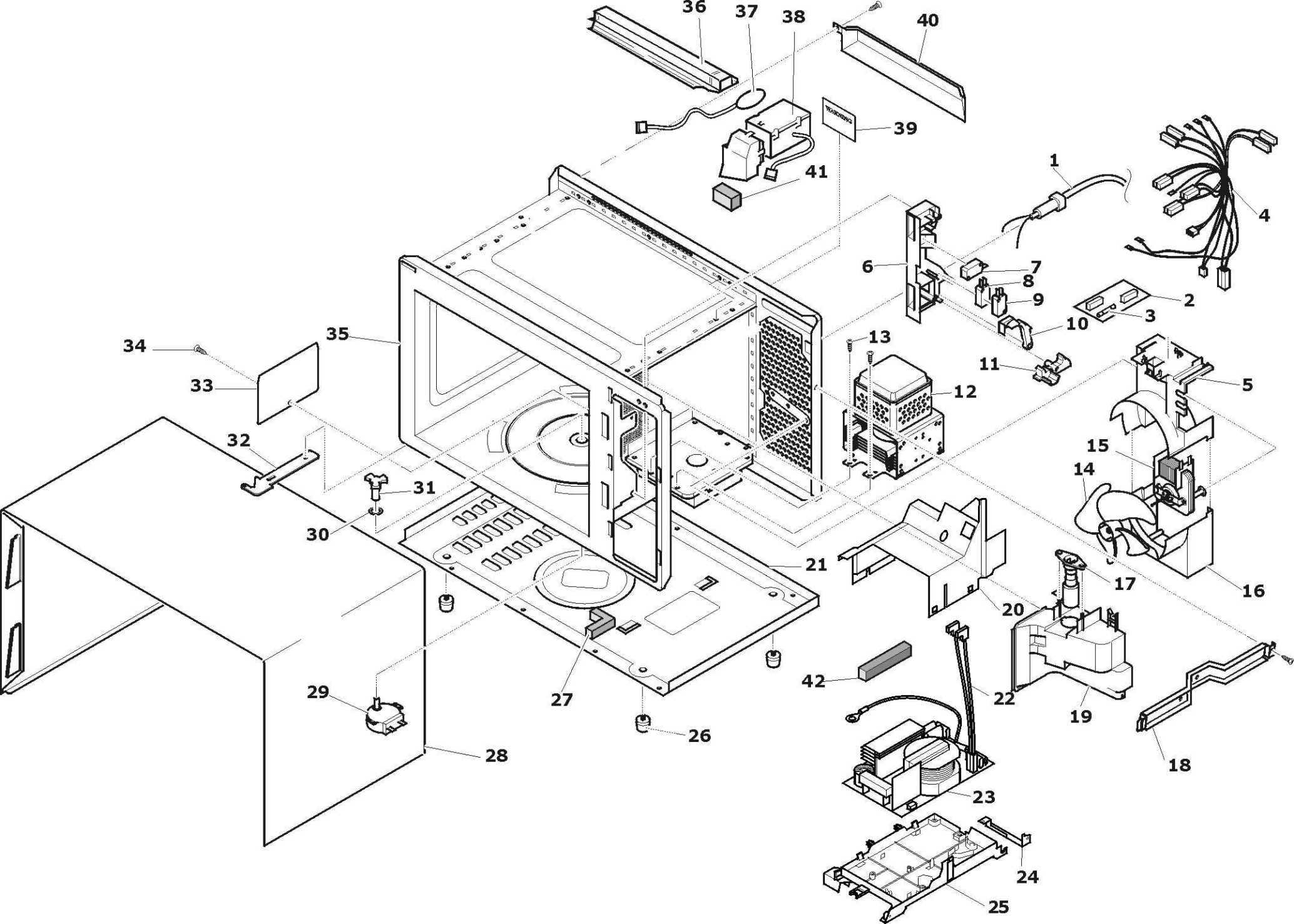
DO NOT TOUCH
HOT/HIGH VOLTAGE *2
CHOKE COIL
FILM CAPACITORS
SAND BAR RESISTOR
CURRENT TRANSFORMER
HIGH VOLTAGE
DIODES
PRESET VOLUME *4
(DO NOT ADJUST)
CONTROL BOARD
WITH CUSTOM IC
HIGH VOLTAGE
CAPACITORS
PHOTOCOUPLER
CN 701
HIGH VOLTAGE TRANSFORMER
CN 702


DANGER HIGH VOLTAGE
AREA
AIR GUIDE
MAGNETRON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**Alternative way to troubleshooting oven with AC Ampare meter used.** **NEW H.V.**

**Oven shuts down after approximately 15 or 33 seconds.**

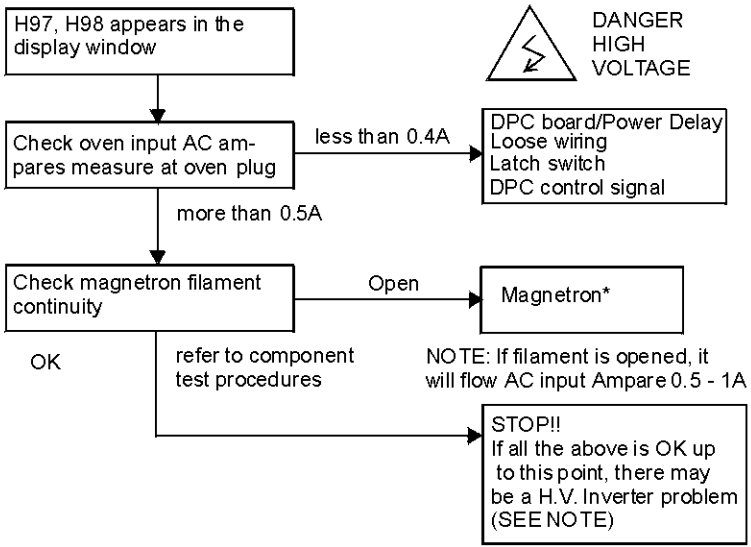
If the microwave oven shuts down after a short time in micropower mode, conduct the following test.

The microwave oven must be set in test mode to activate the self diagnostic failure code system.

SELF TEST MODE

When oven is set in test mode place water load in oven, set micropower to high and time to 1 minute, press start.

H97, H98 appears in display window a short time after start key is pressed and no microwave oscillation with AC Ampare meter used for troubleshooting.


H97, H98 appears in the display window
DANGER
HIGH
VOLTAGE
Check oven input AC amps measure at oven plug
less than 0.4A
DPC board/Power Delay
Loose wiring
Latch switch
DPC control signal
more than 0.5A
Check magnetron filament continuity
Open
Magnetron*
OK
refer to component test procedures
NOTE: If filament is opened, it will flow AC input Ampare 0.5 - 1A
STOP!!
If all the above is OK up to this point, there may be a H.V. Inverter problem (SEE NOTE)

NOTE: DO NOT try to REPAIR this Inverter Power Supply(U) and also DO NOT RE-ADJUST PRESET VOLUME on the board. It is very dangerous to repair or adjust without sufficient test equipment because this circuit handles very high voltage and very large current. Off alignment of inverter board operation is dangerous. Operating a misaligned Inverter circuit is dangerous due to the very high voltage and current that is produced by this board. Defective boards must be replaced with a new one.

*Check magnetron filament for open or short to casing before proceeding to determine a good magnetron.

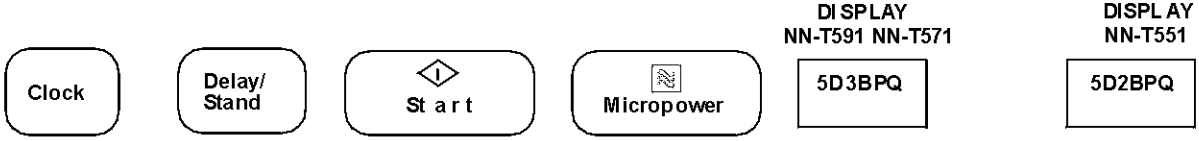
## Troubleshooting of Inverter Circuit (U) and Magnetron NEW H.V.

**Oven shuts down after approximately 15 or 33 seconds.**

If the microwave oven shuts down after a short time in micropower mode, conduct the following test.

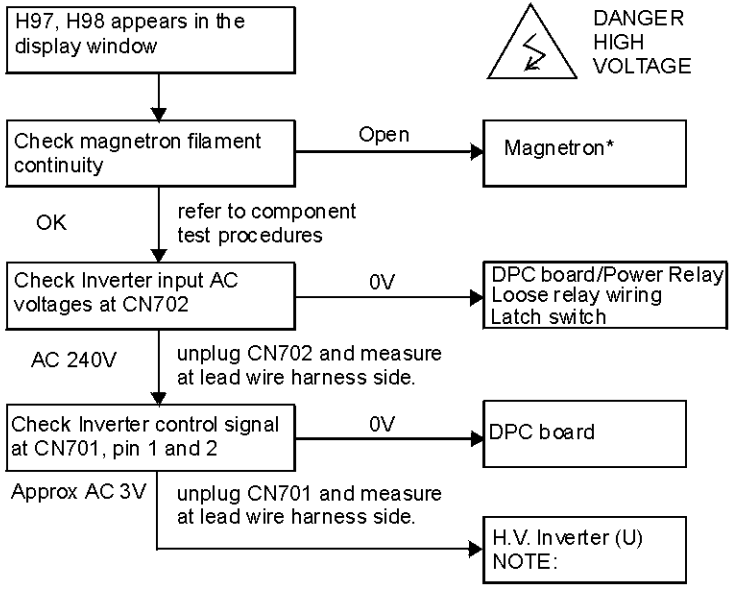
The microwave oven must be set in test mode to activate the self diagnostic failure code system.

SELF TEST MODE




When oven is set in test mode place water load in oven, set micropower to high and time to 1 minute, press start.

H97, H98 appears in display window a short time after start key is pressed and there is no microwave oscillation.


H97, H98 appears in the display window
DANGER HIGH VOLTAGE
Check magnetron filament continuity
Open
Magnetron*
OK
refer to component test procedures
Check Inverter input AC voltages at CN702
0V
DPC board/Power Relay Loose relay wiring Latch switch
AC 240V
unplug CN702 and measure at lead wire harness side.
Check Inverter control signal at CN701, pin 1 and 2
0V
DPC board
Approx AC 3V
unplug CN701 and measure at lead wire harness side.
H.V. Inverter (U) NOTE:

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*Check magnetron filament for open or short to casing before proceeding to determine a good magnetron.